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THE MASSACHUSETTS BUREAU OF STATISTICS

1869–1915

A SKETCH OF ITS HISTORY, ORGANIZATION AND FUNCTIONS

TOGETHER WITH A

LIST OF ITS PUBLICATIONS AND ILLUSTRATIVE CHARTS

BY CHARLES F. GETTEMY
Fifth Director of the Bureau

Prepared for the
MASSACHUSETTS PANAMA-PACIFIC EXPOSITION COMMISSION
in connection with the Exhibit of the Bureau of Statistics.

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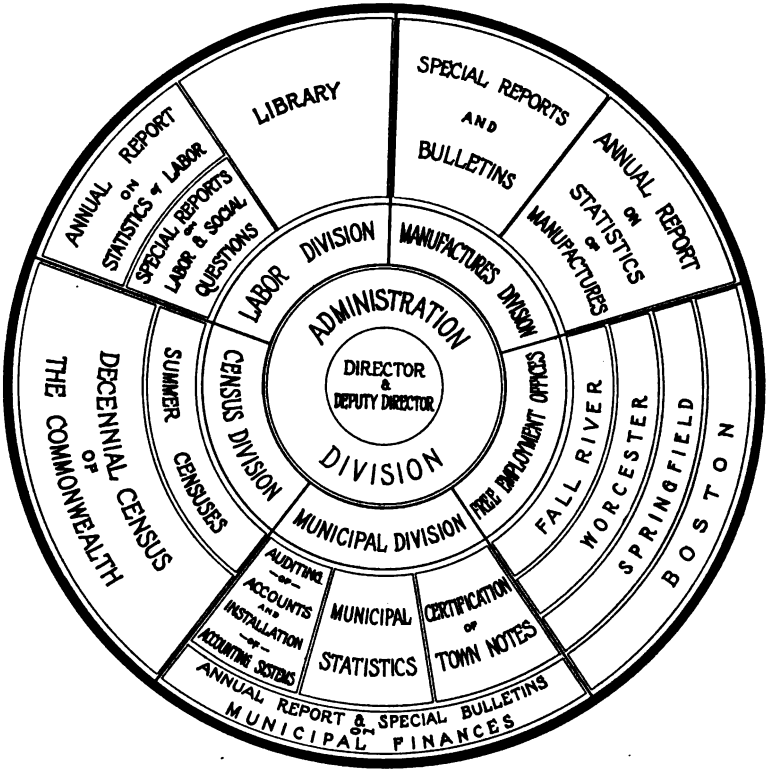

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1873–1888	CARROLL D. WRIGHT
1888–1903	HORACE G. WADLIN
1903–1907	CHARLES F. PIDGIN
1907–	CHARLES F. GETTEMY

Mass. Bureau of statistics.

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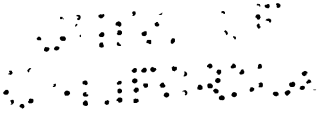

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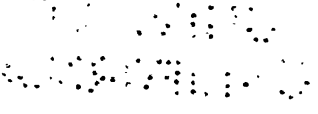

A. L.

THE MASSACHUSETTS BUREAU OF STATISTICS.

INTRODUCTION.

The duties and functions of the Massachusetts Bureau of Statistics, the organization of which dates back to 1869, as defined by statute at the present time, are declared to be "to collect, assort, arrange, and publish statistical information relative to the commercial, industrial, social, educational, and sanitary condition of the people, the productive industries of the Commonwealth, and the financial affairs of the cities and towns; to establish and maintain Free Employment Offices and to take the decennial census of the Commonwealth required by the Constitution";[1] and besides being required to make four annual reports to the Legislature upon the principal regular features of the Bureau's work, the Director is authorized to publish "at such intervals as he deems expedient, bulletins or special reports relative to industrial or economic matters and municipal affairs." The Legislature also from time to time directs the Bureau to make, for its information, special investigations of subjects of immediate concern. The several functions and classes of work performed by the Bureau may be summarized as follows: —

(*a*) The collection and publication of statistical information relating to labor, — first undertaken in 1869.

(*b*) The collection and publication of statistical information relating to manufactures and the promotion of the industrial welfare of the Commonwealth, — first undertaken in 1886.

(*c*) The collection and publication of statistical information relating to the financial affairs of the cities and towns, — first undertaken in 1906. The accumulation of schedules giving

[1] Special censuses for the purpose solely of determining the number of liquor licenses which may be granted in certain towns having a transient summer population are taken each year by the Bureau under the provisions of Chap. 100, Sec. 13, Revised Laws.

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comprehensive data relating to municipal finances and the acquisition of special knowledge on this subject caused the Legislature to regard the Bureau as the most logical department of the state government to undertake the certification of town notes provided for by an act which took effect January 1, 1911; and the certification of district notes provided for by an act which took effect January 1, 1914; also the auditing of municipal accounts and the installation of uniform accounting systems, — first undertaken in 1910, — uniformity in municipal accounting methods being, in the last analysis, essential to and an indispensable step in the process of securing, efficiently and economically, comparable statistics of municipal finances.

(*d*) The establishment and maintenance of Free Employment Offices, — first undertaken in 1906.

(*e*) The taking of the decennial census of the Commonwealth required by the Constitution, — first undertaken by this Bureau in 1875 (taken in 1855 and 1865 by the Secretary of the Commonwealth); also the taking of "summer censuses," so called, for the purpose of determining the number of liquor licenses which may be granted in certain towns, — first undertaken in 1892.

Attention may here properly be called to the fact that in addition to the regular specific duties of the several statistical divisions of the Bureau, the department is being constantly called upon by the public for a great variety of information relating to industrial and economic matters. Such requests come not only from individuals in the community, but from other state departments and investigating commissions, municipal officers, members of the Legislature, commercial, charitable and religious organizations, and the newspapers. It has been the policy of the Bureau to comply with this legitimate demand at all times whenever practicable to do so, notwithstanding no charge can be made for such service, though it not infrequently involves the compilation of special tabulations and in the aggregate makes considerable inroads upon the time of employees at the expense of delay in the regular work of the department.

Co-operation on the part of the Bureau with the federal authorities is authorized by the statute "in all respects possible and feasible so far as is consistent with the interests of the

Commonwealth, for the purpose of promoting economy and efficiency in the gathering, compilation, and publication of statistical matter."

The Bureau is in charge of a Director, appointed by the Governor with the approval of the Council for a term of three years. There is also a Deputy Director, appointed by the Director, and a numerous field and office clerical force appointed in accordance with Civil Service regulations. [See "Organization," page 18.]

I.

HISTORICAL.

The Bureau, probably not originally intended to be a permanent department of the state government, was created by a resolve of the Legislature of 1869, approved by the Governor (the Hon. William Claflin) on June 23, which provided for the appointment by the Governor of "some suitable person to act as chief, who shall have power to appoint a deputy, and said chief with his deputy shall constitute a bureau of statistics, with headquarters in the State House;" the duties of the Bureau were to be "to collect, assort, systematize and present in annual reports to the Legislature, . . . statistical details relating to all departments of labor in the Commonwealth; especially in its relations to the commercial, industrial, social, educational and sanitary condition of the laboring classes, and to the permanent prosperity of the productive industry of the Commonwealth."

The establishment of the Bureau may be said to have been the outgrowth of certain investigations into the subject of hours of labor made by order of the Legislature and a special inquiry into the condition of factory children which was made under an appointment of Governor Bullock by General Henry K. Oliver of Salem, who had been Adjutant General and also Treasurer of the Commonwealth. He prepared two reports on the subject which attracted considerable attention, so that when the Legislature passed the resolve providing for the Bureau, General Oliver was appointed its first Chief (July 31, 1869). In the first report issued, the head of the new department styled it on the title page the "Bureau of Statistics of Labor"; he referred to

it in the text as a "Bureau of Statistics on the Subject of Labor;" the designation "Bureau of Statistics of Labor" appears to have been followed in subsequent legislative enactments relating to the department and in the titles of its reports until the passage by the Legislature in 1909 of the act consolidating the various statutes passed from time to time relating to the department and redefining its functions. This act (Chapter 371, Acts of 1909) is entitled "An Act to Provide for a Bureau of Statistics."[1] This act recognized the continued expansion of the functions of the department beyond its original field of purely industrial statistics by giving it a more inclusive and shorter title, and designating its official head by the more appropriate title of "Director."

The principles upon which such an organ of government should be conducted and the ideals of impartial, non-partisan service by which it should be controlled were first evolved and given concrete expression by the late Carroll D. Wright, who was Chief of the Bureau from 1873 to 1888, and his successors have faithfully striven to maintain this high standard. For this reason the early history of the Bureau and its dominant purposes under Colonel Wright's administration deserves more than passing notice in a description of its functions and its present day development after an existence of 45 years; this cannot be better given than by quoting from the Memorial of Colonel Wright written by Mr. Horace G. Wadlin, his immediate successor in office. Mr. Wadlin says: —

"He created the peculiar department of the public service to which his life was mainly devoted. When he entered this service, bureaus of original investigation devoted to the collection and presentation of statistical information relating to sociology, particularly to that branch of sociology included under the broad term 'the labor question,' were practically unknown; when he left the office of Commissioner of Labor such offices were recognized as important and necessary branches of government.

"The Massachusetts Bureau was not only the first institution of its kind, but, under Colonel Wright's direction, the form of its organization and the theory under which it was operated

[1] See "Organization," page 18.

were found so acceptable that this department served as a model for the creation of similar bureaus in other States, a national bureau at Washington, and Departments of Labor in several foreign countries. This chain of offices, engaged in the accumulation of evidence upon the wide ranges of human activity within the province of sociology, was by no means due to the work of any one man; but, so far as one man may be said to have shaped the general plan upon which they were organized, Colonel Wright is entitled to the credit. The connection between his work in Massachusetts and the establishment of the bureaus in other States and at Washington is direct, and the influence abroad of the American bureaus may be clearly seen. The broad provisions of the legislative resolve creating the Bureau in Massachusetts were generally followed elsewhere. . . .

". . . Its first Chief was Henry K. Oliver and his deputy was George E. McNeill. Both these men held decided opinions upon certain phases of the labor problem then coming into prominence, and Mr. McNeill especially, was then, and until his death in 1906 continued to be, a prominent leader in the organized labor movement in the State. The first report of the Bureau was presented in 1870 and provoked much criticism. From that time until 1873 the Department was more or less involved in controversy. Under the conditions then existing it was not remarkable that certain important interests in the State regarded its operations and the conclusions presented in its reports with little favor. But the advocates of labor reform were by no means united in its support. It is not now necessary nor is this the place to revive controversies long since happily forgotten. These culminated early in 1873, and during the legislative session of that year the question of continuing or abolishing the Bureau was debated with much heat, but without changing the status of the department, and outside the Legislature different factions of the labor element and representatives of capital were equally outspoken in criticism.

"All this was the occasion of some embarrassment to the Governor, His Excellency William B. Washburn. To make the Bureau practically effective, and to win for it popular favor, it was plainly necessary to secure as its chief executive officer a

man of executive ability and of great tact; neither so conservative as to be unprogressive nor so radical as to be impractical; sufficiently well known to inspire respect, and at the same time far enough removed from the contending elements to command the confidence of the public. No man then in active public life seemed to the Governor so well adapted to this work as Colonel Wright. With his legislative career the Governor was familiar. He therefore sent for him and offered him the appointment. Wright was at first disinclined to accept. At the moment such a place offered little that was attractive to a young lawyer who had established a rapidly increasing practice. But, urged by the Governor, he finally consented upon the understanding that he need not abandon his profession, and that he need bind himself to remain no longer than to overcome, if possible, the existing disfavor in which the Bureau was held, and to organize the work of the Decennial Census of 1875, for which provision must at once be made. Neither Colonel Wright nor the Governor foresaw that in consenting to this arrangement he had taken the most important step of his life. In May, 1873, Messrs. Oliver and McNeill closed their connection with the Bureau, and were succeeded by Colonel Wright as Chief, with George H. Long as Deputy.

"Eight years had now passed since the close of the Civil War. The Nation had entered upon the era of unexampled prosperity which marked the last quarter of the nineteenth century. The old order was rapidly changing. Everywhere men were questioning the results of the great industrial revolution. Machinery was displacing manual labor. The cities and great manufacturing towns were drawing the young men away from the pursuit of agriculture. Capital was concentrating in the hands of the great captains of industry. Individual employment was giving way to corporate organization, and the merging of corporations was leading to those great aggregations of capital popularly known as trusts. The conflicts between capital and labor were becoming more bitter. The entrance of women upon factory and mercantile occupations was changing their status, perhaps threatening the permanency of the family relation. . . .

". . . Every legislative body found it necessary to consider a mass of proposed legislation directly affecting the right of free

contract as it was then held, nearly all of which carried the police power far beyond its existing bounds. The Massachusetts ten-hour law was not enacted until 1874. Employers' liability rested upon the common law only. The inspection of factories with its attendant sanitary regulations was practically unknown, and child labor was without effective restriction. Into the turmoil of the changing conditions Colonel Wright was forced by his appointment as Chief of this Bureau. . . .

"Colonel Wright had no desire to conduct a partisan bureau. He had far broader views. The friends of the Bureau were eventually to learn that their interests were best promoted by the unbiased presentation of all the facts, nothing extenuated nor aught set down in malice; and their opponents were to find that they need not fear unjust treatment even under a complete portrayal of existing conditions, when they were presented without prejudice.

"Colonel Wright began his new work with no pride of opinion as to its place in the scheme of government. He started with no preconceived notions as to the usefulness of such a Bureau, and without perfervid enthusiasm concerning the questions with which it was to deal. This was undoubtedly an advantage, probably unappreciated at the time. The one question he asked himself was whether or not the office could be made useful, not to a class, but to the public generally. With the scientific use of statistics he was not then familiar. Neither then, nor indeed afterward, was he much attracted by the accepted theories of the economists. The immediate problem to be solved was a practical one. Here was an office unlike any previously established. It was unhampered by precedent. It contemplated the exercise of broad powers of public investigation upon matters heretofore covered by the cloak of individual privacy. The machine was now dormant. Every revolution of its wheels provoked animosity and clamor. Could it be made to work without friction and with beneficial results?

"There was one man in the United States whose opinion upon this point was pre-eminently entitled to weight. Francis A. Walker was then professor of political economy in the Sheffield Scientific School at Yale. He was deeply interested in economic questions, especially those relating to wages and production.

He had completed with marked efficiency the ninth United States Census, and was therefore familiar with the practical difficulties encountered in the collection, upon a broad scale, of statistics relating to the industrial and social life of the people. To him Colonel Wright turned, and in reply received the following letter: —

I have given much thought to the letter in which you do me the honor to ask me my views as to the work of the Massachusetts Bureau of Labor Statistics; but as the result, I find little to say beyond expressing my hearty sympathy with the purposes of your office, and my wishes for its success. I feel the strongest confidence that the Commonwealth is prepared for your work, and that the work can be done to the satisfaction of all citizens; and that your office has only to prove itself superior alike to partisan dictation and to the seductions of theory, in order to command the cordial support of the press and of the body of citizens. If any mistake is more likely than others to be committed in such a critical position, it is to undertake to recognize both parties as parties, and to award so much in due turn to each. This course almost inevitably leads to jealousy and dissatisfaction. If an office is strong enough simply to consider the body of citizens, and to refuse to recognize or entertain consideration of parties, success is already in the main assured. Public confidence once given, the choice of agencies, the selection of inquiries to be propounded, are easy and plain. The country is hungry for information: everything of a statistical character, or even of a statistical appearance, is taken up with an eagerness that is almost pathetic; the community have not yet learned to be half skeptical and critical enough in respect to such statements. All this is favorable to such laudable efforts as you are engaged in, for the difficulty of collecting statistics in a new country requires much indulgence; and I have strong hopes that you will so distinctly and decisively disconnect the Massachusetts Bureau of Labor Statistics from politics, — from dependence on organizations, whether of working men or of employers, and from the support of economical theories, individual views or class interests, — as to command the moral support of the whole body of citizens, and receive the co-operation of all men of all occupations and of all degrees, without reference, however, either to their degrees or their occupations.

"With these helpful suggestions before him, paying no attention to partisan clamor, disregarding the comments of the press, and making no answer to the criticisms of the labor reformers, Colonel Wright planned his first report, and with his usual energy began to collect the required data. He was content to await the verdict of the public upon the result.

"This report covered an exhaustive inquiry into wages and the cost of living in Massachusetts and foreign countries, and upon the general condition of the workingmen in this State as compared with those in other communities, especially in the manufacturing centers abroad. When only a part of the needed information had been secured, a leading newspaper remarked:

> The results cannot be known until the report is published. But, certainly, no one can justly say that the bureau is not doing a good work. With the matter of regulating hours of labor, the bureau is concerned only to show, by facts and figures, whether a law for such a purpose would be beneficial. *Indeed it is not proposed to volunteer any opinions on any subject, but simply to collate, from sources which are entirely reliable, facts which concern every workingman in the State, and by a knowledge of which he cannot fail to profit.*

"The sentence italicized indicates clearly the position Colonel Wright had taken. In all his subsequent work it was maintained. His personal opinions, and he was not without opinions, vigorously expressed on proper occasions, were never permitted to break the force or to color the presentation of ascertained fact, in his official reports. His official position was, in his view, somewhat like that of a master, whose duty lay in the sifting of evidence and its presentation to the court. In due time this first report was published. As indicated, it contained little dissertation, but its contents received the attention they deserved. From that time forward criticism was allayed, and the sincerity and non-partisan character of the Bureau recognized. Cavillers, of course, were occasionally heard. Those who had proposed to use the Bureau in propaganda could not have been expected to at once sympathize with the trend it was now showing. The ardent reformer can seldom brook the colorless presentation of evidence, even upon his own side of the case. To some, Colonel Wright's way of dealing with figures seemed cold and unconvincing. There are those who believe that exaggerated statements are necessary to stimulate progress, and Colonel Wright would never exaggerate. He would never dwell upon the dark side of the shield without showing whatever brightness appeared upon the other. The picture which he painted was seldom without high lights, but at least it was never distorted. Critics of a different temperament found it

difficult to accept calmly this judicial attitude. At the other extreme were certain ultra-conservative representatives of vested interests whose comfortable satisfaction with existing conditions was disturbed by the light of publicity, and whose feeling toward the Bureau, with its periodical series of questions, was far from kindly. But gradually, the press, without regard to party, acknowledged the value of the Bureau, the Legislature relied upon its reports, and the public generally accepted its conclusions and recognized the competency and fairness of its Chief.

"The year 1875 came and passed. In that year the Decennial Census of the State was taken by the Bureau, under an organization perfected by Colonel Wright and resting upon legislation enacted upon his initiative, with results far superior to any previously achieved in such work. The social and industrial condition of the Commonwealth was shown by it in such a way as to attract instant and wide attention. The accuracy of detail, the lucid arrangement of the tabulated results, and the breadth and fullness of the analytical treatment shown in this work gave Colonel Wright an assured position among official statisticians in America. Incidentally, it established the Census system of the State upon a firm basis. This system was to be enlarged and perfected in later years, notably by Colonel Wright himself in 1885, and by others who were to come after him. As it grew in importance and magnitude, reflecting the growth of the Commonwealth, it was improved through the aid of staff officers and others whose assistance Colonel Wright was always quick to recognize and acknowledge. But, after 1875, its schedules and methods were deemed of such importance that the National Census office accepted the co-operation of the Bureau, its Chief (at first Colonel Wright in 1880, and afterwards his successors) acting as supervisor of the United States Census within the State, without partisan controversy, and with practically a free hand in the conduct of the work, to the mutual advantage of the Commonwealth and the Nation. . . .

"In 1876 the position of Deputy to the Chief was abolished, leaving Colonel Wright the sole executive head. His theory of the non-partisan character of such a Bureau, exemplified by an administration that was everywhere acknowledged to be free

from either partisan bias or personal prejudice, was at length accepted. . . .

"While Colonel Wright continued at the head of the Massachusetts Bureau there was hardly a topic of importance within the range of sociological investigation which he left untouched, and to all of the subjects considered his researches contributed data previously unknown. The education of working children, the condition of workingmen's families, the social life of workingmen, illiteracy, the growth of manufactures in the Commonwealth, profits and wages, the relation of intemperance to pauperism and crime, the question of divorce, co-operation and profit sharing, prices and cost of living, employers' liability, early factory labor in New England, the condition of working girls in Boston, Sunday labor, factory legislation, strikes and lockouts, — these and other subjects were treated in elaborate investigations which began with the careful preparation of schedules of inquiry, followed by intelligent agency work in the field, the final tabulation of results and their presentation in lucid statistical tables accompanied by sufficient textual analysis. No statistical work of this kind had ever been done before. The reports were in constant demand. They received European notice and favorable comment, and were used as text-books in the colleges, which were now taking up the study of sociology and the relation of statistical science to economic questions.

"Thus the permanence of the Bureau was assured, and liberal appropriations annually made for its support without protracted debate. It was now regarded not as an organ of propaganda to advance any particular theory, but as a source to which the legislator or the economist might turn for evidence upon existing industrial and social conditions, with firm confidence in its statements. Colonel Wright, if he had done nothing else, had made it clear that the usefulness of such a Bureau depended not upon the arguments its Chief might frame for or against the great questions that were agitating the public, but upon the clearness and completeness with which it presented the facts upon which any valid argument must rest; not some of the facts but all of them, so far as it was humanly possible to collect and show them. To him statistics were not mere figures to be carelessly used, nor, on the other hand, had they any peculiar sanctity.

They were at best more or less imperfect evidence of facts which lay behind them, partial and approximate, frequently; rarely final, and those of to-day perhaps to be made useless by others to-morrow. But, until superseded, to be given weight proportionate to the honesty and intelligence of the person who collected them; no more, and certainly no less.

"Although the Chief, as a matter of principle, had refrained from directly advocating legislation, the investigations which he had conducted had materially affected the course of legislation, especially with respect to the employment of labor, and the establishment of an effective system of factory inspection, based upon a definite factory code. He was unquestionably right in his view that the results of such investigations, once the Bureau had established its title to confidence, would carry more weight with the public and with the Legislature than any personal argument however cogent. Indirectly they led to changes in the convict labor system, to the establishment of a Board of Arbitration, to the improvement of sanitary conditions in factories and workshops, and to reform in other industrial conditions. The investigations of the Bureau had an important relation to the establishment of effective provisions for the education of children in factory towns and to limit their employment to reasonable hours; also to the enforcement of the ten-hour law, and its extension to other States than Massachusetts; and to the enactment of an employers' liability law.

"The Massachusetts statutes, passed under such conditions, served as precedents for similar legislation elsewhere. The reports of Colonel Wright on these and other subjects of proposed legislation, sent out from Massachusetts, were generally accepted as authoritative. The effect of such reports was cited in answer to those who, questioning the practical value of Bureaus of Statistics of Labor when conducted as offices of investigation merely, wished to see concrete illustrations of their influence. The quiet man who had thus built up the Massachusetts Bureau was now exercising an authority far greater than any mere advocate of reform measures could possibly have secured."

For about seventeen years after the establishment of the Bureau in 1869 its regular work was confined to such special sub-

jects and investigations as appeared, in the opinion of the Chief of the Bureau, to be desirable in the public interest, or such as were required by some special act of the Legislature. In 1886, the first provision was made by statute which required the Bureau to collect annually certain specific statistical information in connection with a specifically defined field of inquiry. As far back as 1837, the Legislature had called upon manufacturers[1] to make returns relative to the quantity and value of stock used and of goods manufactured, the amount of capital invested, and the number of hands employed, and in that year returns were made in accordance with the provisions of the act. Similar returns were also made in the years 1845, 1855, 1865, 1875, and 1885. The tabulations for the census of industries have grown larger each decade as the conditions of manufacturing have become more complicated.

In 1874 the act providing for the collection of industrial statistics for 1875 transferred the whole work of the Census from the office of the Secretary of the Commonwealth to that of the Bureau of Statistics of Labor. In carrying on the work of 1885, Colonel Wright, then Chief of the Bureau, became thoroughly convinced that the results of a decennial census of industries were not commensurate with the expense necessary for such a census, and the difficulty to the manufacturer in making the returns required by law. After consultation with many of the leading manufacturers of the State it became apparent that the collection of statistics annually, upon a small and simple schedule, would give to the producing community results of great value. Governor Robinson took an interest in this matter and, in his address to the General Court, January 7, 1886, suggested the expediency of a more frequent inquiry into, and report upon, the condition of the great industries of the State. He said: —

Censuses taken at intervals of ten years are liable to be quite inadequate for comparison, for the reason that one decade may end when our industries are in a flourishing condition, while the next may terminate in a year of great depression. Statistics are relied upon as of great value in scientific and economic inquiries, but they may be very misleading

[1] Chapter 199, Acts of 1837, "An Act to Obtain Statistical Information in relation to Certain Branches of Industry within the Commonwealth."

and insufficient to present the true conditions when collected only at long intervals. An annual account involving a few inquiries, to be taken as of January first and the results reported immediately, or by the first of April following, would present to the Legislature and to the people the exact data needed relating to total products and other important features, so that proper comparisons could be made through good and bad years alike. Such annual accounts could involve but few inquiries; as for instance, capital invested, quantity and value of stock or materials used, quantity and value of principal products, total number of persons employed, total wages paid, capacity of works, number of weeks in operation, and perhaps some general classification of wages by sex.

In accordance with these suggestions, a bill was laid before the legislative Committee on Manufactures and received its unanimous approval, as well as that of the manufacturers who came before the committee, no one objecting to it. The committee reported the bill, it passed both branches without criticism, and became Chapter 174 of the Acts of 1886, entitled "An Act relating to the annual collection of statistics of manufactures," in accordance with the provisions of which such statistics have since been gathered and published annually.

Twenty years elapsed before any further definite duties were placed upon the Bureau by the Legislature; then in 1906 two important acts were passed which very materially broadened the scope of its activities: One provided for the establishment and maintenance, under the supervision of the Chief of the Bureau, of Free Employment Offices;[1] the other provided for the gathering and compiling of statistics of municipal finances.[2]

The former imposed upon the Bureau for the first time in its history an important function not only purely executive in character but one which did not necessitate the collection of statistics either for informative or direct administrative purposes.

The second act referred to, however, laid the foundation for the development of a new branch of statistical inquiry of the first magnitude. It required the auditor or other accounting officer of each city and town of the Commonwealth to annually furnish to the Chief of the Bureau of Statistics of Labor, on blanks prepared by him, "a return for such city or town containing a summarized statement of all revenues and all expenses for the last fiscal year of that city or town; a detailed state-

[1] Chap. 435, Acts of 1906.

[2] Chap. 296, Acts of 1906.

ment of all receipts and all disbursements of the last fiscal year, arranged upon uniform schedules prepared by the chief of the bureau of statistics of labor; statements of the income and expense for each public industry maintained or operated by such city or town and of all the costs therefor, expenditures for construction and for maintenance and operation being separately stated; a statement of the public debt of said city or town, showing the purpose for which each item of the debt was created and the provisions made for the payment thereof, and a statement of all current assets and all current liabilities of such city or town at the close of its fiscal year."

The attempt to promote compliance with the last-mentioned statute soon disclosed the fact that the lack of uniformity in accounting methods and the laxity which prevailed in many cities and towns of the Commonwealth in the handling of their financial transactions rendered the filing of returns on a uniform schedule exceedingly difficult in numerous cases; thereupon a movement began in certain towns looking toward legislation whereby they might obtain the assistance of the Bureau through an audit of their accounts and the provision of a suitable accounting system based upon approved principles of municipal finance. This resulted in 1910 in the act [1] authorizing the Bureau to perform such a service for any city or town, at its own expense, which might petition for the same.

While the auditing of accounts is not of itself a statistical function, it is, in the practical operation of the law, generally incidental to the installation of an accounting system which not only gives the municipality the opportunity of greatly improving its financial procedure, but also serves, in turn, a most important statistical purpose, and from the standpoint of the Bureau may be regarded as the means necessary to the end of securing data for purposes of information which will be comparable and, eventually, of inestimable value to citizens and administrative officials alike.

Another function placed upon the Bureau by the Legislature in 1910, not of itself statistical in character, but largely dependent upon the gathering of information for its proper execution, and necessarily correlated with the other work of the

[1] Chap. 598, Acts of 1910. Since the passage of this act, up to Dec. 31, 1914, 14 cities and 48 towns had voluntarily availed themselves of its provisions.

department in the field of municipal finances, was the certification of town notes,[1] supplemented in 1913 by a similar provision relative to district notes.[2]

II.

ORGANIZATION.

The Bureau of Statistics is organized into six divisions, namely (1) Administration; (2) Labor; (3) Manufactures; (4) Municipal; (5) Census; (6) Free Employment Offices. On January 1, 1915, there was a total of 88 persons connected with the department as regular employees, of whom 58 were attached to the Bureau of Statistics proper and 30 were employed in conducting the four State Free Employment Offices, which are also under the jurisdiction of the Director of the Bureau. Of the 58 regular employees of the Bureau, 48 were employed in clerical or office positions of responsibility, while 10 were employed chiefly in field work. In addition to these regular employees who have a permanent rating, it is necessary for the Bureau to employ from time to time during each year a certain amount of temporary help, both in the office and the field, including a certain number of municipal examiners the cost of whose services is assessed back upon the cities and towns to which they may be assigned. The number of persons thus temporarily employed for all purposes at different periods during the year ending December 31, 1914 was 48, the aggregate number of employees of all classes during the year being 136.

By the provisions of Chapter 605, Acts of 1914, the clerks and stenographers in the Bureau of Statistics are classified, in common with similar employees in the other departments of the Commonwealth, into three grades. Clerks, upon entering the employ of the department, are paid at the rate of $500 a year, and stenographers at the rate of $600 a year, being grouped in what is designated as Grade 1, the salaries for which increase by yearly increments of $50 until they reach $750; but the head of the department, if such employee has been efficient and satisfactory in conduct, may further increase the salary by yearly increments of $50 until it reaches the maxi-

[1] Chap. 616, Acts of 1910.

[2] Chap. 727, Acts of 1913.

mum of $850. The salary of clerks and stenographers in Grade 2 begins at $750 and increases by yearly increments until it reaches $900, but the head of the department may, if such employee has been efficient and satisfactory in conduct, further increase the salary by yearly increments of $50 until it reaches a maximum of $1,000. Salaries may be fixed in excess of $1,000 by vote of the Governor and Council upon the recommendation of the head of the department, and clerks and stenographers whose salaries are thus fixed constitute Grade 3.

The Director of the Bureau may not make promotion from a lower to a higher grade except for positive merit and upon a certificate signed by him and filed with the Civil Service Commission that the person to be promoted is thoroughly competent to perform efficiently work of a superior and more advanced character and that the needs of the department justify such promotion, and no increase of salary may be made until such certificate is filed.

I. The Administration Division.

This division is in the immediate charge of the Deputy Director of the Bureau, who has the assistance of a chief clerk in answering the inquiries of the public and keeping the Bureau accounts and records; a second clerk; two stenographers employed on dictation from the Director and Deputy, or work of a general character; a messenger; and a laborer. There are charged to the cost of administration only such salaries and incidental expenses as cannot be distributed among the several divisions of statistical work.

The regular annual appropriations for the maintenance of the department are made in three sums (exclusive of the salaries of the Director and Deputy, which are fixed by law and separately appropriated), namely (*a*) for clerical services of the Bureau of Statistics; (*b*) for contingent expenses of the Bureau of Statistics; (*c*) for the maintenance of the Free Employment Offices. In addition, there is an annual appropriation to which are charged the expenses of taking summer censuses, so called, as provided for by Section 13, Chapter 100, Revised Laws, these expenses being later assessed back upon the towns petitioning for the same; and an appropriation to cover the expenses of

auditing and installing municipal accounts in accordance with the provisions of Chapter 598, Acts of 1910, which are assessed back upon the cities and towns petitioning for the same.

The expenditures for all divisions of the department (except those which are assessed upon cities and towns) for the fiscal year ending November 30, 1914, with corresponding estimates for the fiscal year ending November 30, 1915, — the aggregates of the latter being the amount appropriated, — are given below: —

BUREAU OF STATISTICS.

	1914.		1915.	
Administration				
Salaries and services,	$11,513 37		$11,151 67	
Contingent,	806 70		582 00	
		$12,320 07		$11,733 67
Labor				
Salaries and services,	$15,906 27		$14,599 18	
Contingent,	7,123 71		9,616 00	
		23,029 98		24,215 18
Manufactures				
Salaries and services,	$10,939 68		$11,182 51	
Contingent,	5,310 73		2,596 00	
		16,250 41		13,778 51
Municipal				
Salaries and services,	$21,845 38		$22,966 64	
Contingent,	9,422 00		7,206 00	
		31,267 38		30,172 64
Total,		$82,867 84		$79,900 00

FREE EMPLOYMENT OFFICES.

Salaries and services,	$24,189 50		$24,568 05	
Contingent,	9,712 93		10,931 95	
		33,902 43		35,500 00
Aggregate,		$116,770 27		[1]$115,400 00

[1] Not including expenditures from a special appropriation of $15,000 made available for preparations for the State Census of 1915.

The estimates of the aggregate amounts required for the regular clerical and contingent expenses of the Bureau and of the Free Employment Offices as filed annually with the State Auditor in November are based upon itemized estimates of the needs of the Chiefs of the several divisions, and submitted by them to the Deputy Director. The latter consolidates these preliminary estimates into classifications which are standard and uniform for all divisions, thereby enabling the Director to make intelligent comparisons of the requirements of the several divisions as estimated by their respective heads. Each of the latter having made his own estimate independent of the others, the Director of the Bureau, having to decide upon the aggregate amount which he must ask for, has before him the means of determining, by questioning the subordinates who have made the original estimates, whether the same represent, in his judgment, real requirements.

In this manner responsibility is fixed, and the head of the department can be personally cognizant of its estimated financial requirements down to the smallest detail. Incidentally, the classifications adopted enable comparisons between estimates and expenditures to be made from year to year on a uniform basis, since the accounts of appropriations kept by the Bureau follow the same classifications as the estimates. The appropriation for the maintenance of the Free Employment Offices is made in a lump sum, but the accounts for each office are kept distinct, so that the expense of conducting each can be determined and stated with accuracy.

This system of preparing the annual budgetary estimates of the department has been introduced since the present Director came into office, and is based upon a scheme of administrative accounts and records which may be enumerated as follows: —

(*a*) A *time book*, in which is recorded the name and address of each employee, the division to which he or she is assigned, and the number of hours worked each day, this record being based upon individual time slips which are made out daily by each employee and which show the class of work upon which each is engaged. A special form of daily report is furnished each special agent engaged in field work, on which he records his time, his daily expenses, amount of mileage used, etc.

These items are checked to his expense account each month, and the two must agree before the account is approved. An agent in traveling is furnished a mileage book and is required to receipt for the amount of mileage contained therein, and at the end of each month or upon the surrender of the book, the amount of mileage actually used is checked to the amount reported used on his daily reports.

(*b*) A *stock account*, kept by a card system, requisitions on the Deputy for supplies as needed being drawn by the chiefs of divisions or supervisory clerks, and upon approval being charged to the account of the division using the material.

(*c*) An *order book*, used for the purchase of all supplies and for printing, a record of each order being kept on a stub bearing a number corresponding to the order blank. Upon receipt of the goods ordered, a record is made in a receipt book, noting the kind and quantity of material and the date of receipt, after which the goods delivered are checked as to quantity, material, firm name, etc., with the stub in the order book for the purpose of making certain that the goods received are as ordered; and the date of receipt is recorded on the stub. By the terms of the order, bills in duplicate are required, the original for forwarding as an official voucher to the State Auditor, the duplicate being filed in the office with a copy of the monthly account as transmitted to the Auditor with the approval of the Deputy Director. The bill rendered is, upon its receipt, checked with the record of the order on the stub of the order book to make certain that the goods charged for agree with the quantity ordered and actually received; the price charged is then recorded on the stub as a memorandum for future reference and the bill is approved by the clerk who checked the same.

(*d*) A *card ledger*, to which is posted each month the salary and contingent accounts, showing names of payees and amounts as approved for the State Auditor.

(*e*) A *loose leaf "maintenance" account*, showing by the divisions of the Bureau (*a*) the amount of the monthly pay-roll, and the balances unexpended of the annual appropriation for salaries; (*b*) the appropriation for the Bureau's contingent expenses, monthly expenditures, and balances, — the balances

as shown on the Bureau's books being checked with those of the State Auditor. In this manner the Director is kept informed from month to month of the exact condition of the department's finances.

(*f*) A *memorandum record* of all expenses incident to the certification of town notes, including cost of printed forms, postage, and clerical time, for the purpose of determining at the end of the year whether the amount of the certification fee as fixed ($2 for each note) is sufficient to reimburse the Commonwealth for the expense incurred.

(*g*) An *account of expenses incurred in the auditing and installation of accounts in cities and towns* under the provisions of Chapter 598 of the Acts of 1910, these expenses being certified to the State Auditor and assessed upon the municipalities concerned.

II. The Labor Division.

The regular staff of this division consists of a Chief of Division, an assistant having a legal and a statistical training, an expert supervisory clerk, two special agents who are employed throughout the year, two special agents employed six months of the year (being transferred the remainder of the year to the Manufactures Division), a librarian and translator, a proofreader, five clerks, and three stenographers who also perform a considerable amount of clerical work. The average daily correspondence of this division is 51 letters sent and 25 letters received, and this, in connection with other typewriting, keeps two and often three typewriters continuously employed.

This division includes within its scope the collection, tabulation, and preparation for publication of statistics relating primarily to matters affecting labor and the condition of the wage-earning population, as well as questions of general economic and sociological interest; to this division is also assigned, between the regular census periods, the work of making such special studies or compilations from census data as may from time to time be called for by commercial or philanthropic organizations or individuals. The data gathered by this division are published in the Annual Report on the Statistics of Labor (Pub. Doc. 15), which is now issued from time to time in separate parts styled Labor Bulletins.

The administration of the Bureau library is included as a part of the duties of the Labor Division, for the reason that the great majority of the books, pamphlets, periodicals, etc., which come to the Bureau pertain directly to the work of this division or relate to economic matters which are within the broad scope of its duties. The amount of library work incident to the proper listing and cataloguing of the periodicals and pamphlets bearing directly upon the work of the other divisions is relatively small. As each book is added to the library, its place on the shelves is determined and it is properly labeled, stamped with the library dating stamp showing the date of accession, and acknowledged either by post card form or by letter. Cards for the catalogue are then made, and when these have been read back, verified, and are ready for filing, the more important books, periodicals, and pamphlets, before being finally placed upon the shelves, are forwarded to the Director for examination, and by him forwarded to other divisions or members of the staff interested in the same. For each publication thus forwarded as well as for each book or periodical which may be taken from its usual place in the library, a borrower's slip is filled out and placed on file pending the return of the book. In this manner responsibility for a book or pamphlet taken from the shelves may be at any time readily fixed. Comparatively few periodicals are bound, only those portions of magazines, etc., embodying articles deemed worthy of permanent preservation or having a direct bearing upon the work of the Bureau, being kept; these are detached and the remainder of the periodical thrown away. The detached articles and unbound pamphlets are enclosed in paper covers, labeled, filed in pamphlet boxes, and catalogued.

The subjects concerning which information is now annually gathered and compiled by the Labor Division are as follows: —

(*a*) *Wages and Hours.* — There is perhaps no subject within the field of industrial statistics concerning which it is of greater importance that reliable information be periodically gathered and kept up-to-date than that of prevailing rates of wages and hours of labor in various localities and industries. Prior to 1907, the presentation on wages and hours consisted of compilations of data gathered from various sources concerning

changes in wages and hours, and published in the Labor and Industrial Chronology. From 1907 to 1910, comprehensive reports were issued on Changes in Rates of Wages and Hours of Labor. In 1910, a report was also published on Prevailing Time-Rates of Wages and Hours of Labor in Selected Occupations, in effect October 1, 1910, the data being obtained from labor organizations. In 1911, a report was issued on Prevailing Time-Rates of Wages and Hours of Labor in Certain Occupations, in effect October 1, 1911, which was in nature chiefly a supplement to the report for 1910 with the addition of data obtained from employers' associations and special investigations into time-rates in six industries which were not organized (except boots and shoes). In 1912, an inquiry was made into the earnings and hours in a specific group of industries. The group selected was paper and paper goods. This inquiry covered approximately 30,000 employees. For 1913 the inquiries were confined to union rates of wages. In addition to this report, the results of an investigation of wages and hours in the manufacture of "paper products" as distinct from paper stock and pulp (the subject matter of an earlier inquiry) are now being prepared for publication.

(*b*) *Labor Organizations.* — This report contains statistics showing the number of labor organizations of various types, the number of men and women who are members of trade unions in the different industries in each city and town, and the extent to which collective bargaining is carried on by organized workmen. It also includes a summary of the principal data secured in our quarterly investigation of unemployment among organized wage-earners with comparisons for prior years.

(*c*) *Unemployment among Organized Wage-Earners.* — A bulletin is published quarterly showing the extent of enforced idleness among those workmen who are members of labor organizations in various industries and localities. The percentage of unemployment resulting from lack of work or material gives the proper index for determining the degree of industrial prosperity or depression. Information is also presented showing the amount of idleness due to unfavorable weather, strikes and lockouts, disability (including sickness, accident, and old age), and other causes.

(*d*) *Text of the Labor Laws.* — A bulletin is published each year as soon as possible after the adjournment of the Legislature, containing the text of the laws enacted affecting labor, an index of all the bills affecting labor introduced in the Legislature during the year and showing the action taken on each bill, and opinions of the Attorney-General or of the Justices of the Supreme Judicial Court on pending legislation. All legislative documents and acts and resolves enacted by the Legislature are delivered to a clerk who attends to maintaining a complete file of the same. During the session of the Legislature these are examined by the Chief of the Division, who marks all those affecting labor and prepares the copy on the enactments for the printer. Each bill affecting labor is, with the assistance of the Clerks of the House and Senate, indexed so as to show the action taken on the same. Copy is submitted to the Director for editing and then goes to the printer and follows the usual course of all reports. The text of the legislation in 1914 was not published separately, for the reason that a compilation of all the labor laws in effect at the close of the legislative session of that year was to be published as a "Handbook of Labor Laws."

(*e*) *Annual Directory of Labor Organizations.* — This is published in the form of a bulletin, for which there is a large and increasing demand on the part, not only of members of labor organizations, but also of social workers.

(*f*) *Statistics relating to Immigrant Aliens.* — These data are compiled from the annual report of the United States Commissioner of Immigration and arranged in convenient form for local distribution, for the purpose of supplying a widespread and constant demand for information on this subject.

The processes incident to the preparation of the principal reports and bulletins of this Division may be described in greater detail as follows: —

Inasmuch as no legal requirement rests upon employers or employees, individuals, or associations to notify the Bureau of industrial agreements or disagreements, rates of wages, hours of labor, etc., the primary source of the Bureau's information on these subjects is the daily press and the various trade journals

and organs of the labor organizations. Formerly a clipping bureau service was subscribed to for this purpose, but after a very careful trial it was found that complete and satisfactory service could not be secured in this manner, which involved paying for many clippings that were not needed. It was therefore decided that the Bureau could do the reading necessary for this purpose better and more economically than an outside concern could be employed to do it.

The Labor Division accordingly receives regularly 20 daily newspapers, 69 weeklies, 134 monthlies, and 49 other periodicals, making a total of 272 (an average of 39 a day) which are carefully examined to ascertain whether they contain matter of use in properly presenting the work of the Bureau. The labor organization journals are delivered to a clerk who files them in pamphlet cases. The trade journals are delivered to another clerk who spends about four days each month examining them. Statistical reports, bulletins, and journals of statistical and other learned societies, etc., are delivered to the Chief of the Division, who spends in the aggregate about three days a month examining them. The dailies are delivered to a clipping clerk who devotes her whole time to this work. She first inspects the papers for articles deemed to be of immediate interest to the Director. She then examines each paper carefully for all references to some 65 questions pertaining to labor. In order to insure this work being thoroughly done, and also as a check upon subscriptions, all periodicals, reports, etc., when received in the office, first go to the librarian or her assistant who records the receipt in a book especially designed for the purpose. This "periodical book" provides for a complete record of each periodical received, giving the name, the address to which communications regarding it should be sent, the manner of obtaining the publication (whether by exchange, gift, or subscription), and if by subscription, the amount of the same, the dates covered thereby, and the date the bill was approved by the clerk keeping the record, whose duty it is also to verify bills for subscriptions.

Clippings relating to all other labor matters are delivered to the head of the division, who carefully examines them, keeping only those deemed desirable for future reference, which are placed in separate scrap books devoted to the subjects to

which the clippings relate. Clippings relating to specific employers' associations, mutual benefit associations, establishments conducting welfare work, industrial accidents, injunctions, pension systems, and profit-sharing systems in Massachusetts are pasted on clipping sheets and filed and indexed.

As much as possible of the information necessary for the preparation of the reports of the Labor Division is procured by mail. Many schedules are, however, returned in such form that proper corrections cannot be made by correspondence, while there is always a considerable number of organizations which are delinquent in responding to inquiries. A certain amount of field work is, therefore, necessary, and for this purpose special agents are employed.

When the schedules are complete, other clerks transfer the data to tabulation sheets and cards and verify them. The statistical tables are prepared from these sheets and cards by experienced clerks and the tabulations are then verified. After the completion of the tables, the textual analysis is prepared, the Chief of Division verifying it and preparing a preliminary draft of the introduction for the Director's editing or revision. When the proof is returned from the printer in galley, it is read back to copy and the proof-reader examines it for typographical errors, punctuation, grammar, etc. The textual analysis is again verified, as it appears in type, from the tables. The galley proof is then returned to the printer for a revise in page proof, which undergoes a similar process of verification. The page proof is then ordered to press.

III. The Manufactures Division.

The regular staff of this division consists of a Chief of Division, a record clerk, five editing and tabulating clerks, and a stenographer, together with two of the permanent special agents of the Bureau whose services are required for from three to six months, these agents being employed during the remainder of the year in field work for the Labor Division. In addition it is necessary to employ several field agents each year for from three to four months during the period of gathering the annual schedules, and it is also usually necessary to employ additional clerks temporarily.

The work of this division is practically limited to one function, namely, the gathering of manufacturing statistics on schedules embodying specific inquiries indicated by the statute which requires said schedules to be mailed to the manufacturers of the Commonwealth on or before December 15 of each year and returnable not later than January 20 following, the Director, however, having authority, in his discretion, to extend the time for returning the schedules beyond said date, this extension being necessary in numerous instances owing to the fact that the fiscal years of establishments do not end uniformly December 31.

In 1913, in addition to the regular annual report embodying statistics of manufacturers, the division prepared a Directory of Manufactures, based upon its card lists and embracing some 8,300 concerns, a work for which there has long been an increasing demand.

In 1914, a report was prepared for the first time on the Power Laundry industry, embracing information for nearly 400 steam laundries similar to that given in the annual report on Manufactures.

The annual report on the Statistics of Manufactures consists of tabulations showing the amount of capital invested, value of stock and material used, amount of wages paid during the year, average yearly earnings, number of wage-earners employed classified by sex, and the value of manufactured output. There are also tabulations of the number of wage-earners employed each month and tabulations of classified weekly wages. This information is classified by industries, by cities and towns, and for the metropolitan district so far as possible within the restrictions of the law, which stipulates that these data "shall not be used by said Bureau, either by publication or in any other manner, so as to disclose the private affairs of any person, partnership, or corporation, and the Bureau shall hold all such information to be strictly confidential with respect to persons, partnerships, or corporations."

There are at present 275 industry classifications used in classifying the manufactures of Massachusetts. The Bureau in 1914 sent its schedules as of the year 1913 to manufacturing establishments numbering 8,800, in round numbers, and re-

ceived returns from 8,405, the remainder being out of business or not operated for that year. This is an increase in the number of establishments covered since 1908 — when there were 6,044 — of about 2,400, or 40 per cent. A certain proportion of the schedules as made out by manufacturers are defective, and such as cannot be put into proper condition by correspondence are given to agents for the purpose of obtaining corrections by personal visit; most of the work of the special agents, however, consists in securing schedules from delinquent manufacturers or from new concerns which have not before made returns to the Bureau and whose officers frequently require a personal explanation as to what is desired. Unless the work is interrupted or delayed by unforeseen circumstances, the tabulations for this report are usually completed and the copy ready for the printer some time in July.

The office procedure with respect to handling the manufactures schedules is substantially as follows: —

(*a*) As the schedules come to the office they are opened by the mail clerk, who records their receipt and gives them to the Chief of the Division.

(*b*) The Chief of the Division gives the schedules a careful preliminary examination for the purpose of ascertaining whether they are in satisfactory condition and require only office editing to put them into proper form for tabulation; and those schedules found to require no correspondence are given to an editing clerk. Schedules found to be defective by reason of omissions in information furnished or apparent misstatements are withheld for correspondence, memoranda in regard to the same are furnished the Director of the Bureau, and letters are written to the establishment involved calling attention to the questions raised with regard to the schedule. All correspondence with manufacturers relative to corrections that may be required is carefully filed and bears a number corresponding to the schedule number. If the manufacturer makes corrections on a printed form it is pasted in the proper place on the original schedule; if not, the corrections are entered on the schedule in red ink by a clerk. In editing schedules for tabulations, no alterations are made in statements of fact except upon the authority of the establishment concerned.

(*c*) The editing clerk takes the schedules, verifies the additions or other computations as made by the manufacturers returning the schedules, copies figures when necessary so that they may be clearly understood subsequently by the tabulating clerks, and transfers the office number as given on the title page of the schedule to the schedule proper. The editing clerk is expected to give particular attention to the inquiry on the schedule in regard to the kind of goods made, in order that she may be especially informed in this branch of the work.

(*d*) Having passed through the hands of the editing clerk, the schedules next go to the record clerk, who makes a record, on cards provided for the purpose, of any change in the name or address of a concern or in the location of its plant; makes notes of removals from the State, consolidation of establishments, the inception of new enterprises, etc. There is a card for each establishment on which are entered, in addition to the foregoing memoranda, the following data: — Amount of capital invested, average number of wage-earners, wages, and value of product. These cards are numbered, each establishment having its own number, and the information in regard to the same is entered, year after year, on the same card. There is thus at hand for ready reference on a single card the information collected for the establishment over a series of years, a new card, of course, being made out for a new enterprise making report for the first time. When this card record has been made and filed away, the title pages of the schedules are detached, so that the clerks who handle them have no knowledge of the identity of the concerns whose returns they are tabulating.

(*e*) The schedules are now ready for tabulation, for which purpose a set of sheets is prepared, one for each city and town, to which the data are drawn off, day by day, from the schedules as rapidly as they go forward. By this process, the tabulations by cities and towns are secured.

(*f*) The schedules next go forward for "assembling" preparatory to tabulation by industries. These tabulations are much longer, inasmuch as they include detail of persons employed by months, and of weekly wages by classes. The computations are made by sections and on adding machines. For example, there are, in round numbers, 500 boot and shoe establishments in

Massachusetts. These are tabulated in five sections of approximately 100 schedules each, for two reasons: (1) Because to hold the schedules until all the reports for the industry were received would needlessly delay the work; and (2) because it has been found that better results are secured, with less strain on the clerk, by aggregating a limited number of reports at a time and summarizing the subdivisions.

(*g*) The machine records of each section are read back to the original schedules to see that no error has been made in recording the figures on the adding machines, and result sheets are then made in pencil. The summaries of the 275 industries are subsequently aggregated so as to secure the state total. A similar process is followed with regard to the cities and towns, the machine record sheet for each municipality being read back to the schedules and afterwards summarized to the state total. In this way, although the arrangement of the figures is never the same, in the final result of both processes, *i.e.*, the state total, absolute verification of the work is brought about.

(*h*) In addition to the city, town, and industry tabulations, there are further subdivisions, giving detail by industries, for each city and large town of the State, as well as for the metropolitan district wherever the number of establishments will permit aggregates without disclosing the operations of individual establishments. The average yearly earnings for each city, town, and industry are figured on a computing machine. All of this work is done in pencil, ink copies being made for the printer, and the proof, when returned, is compared with the original office copy, all percentages and averages being verified before the proof is finally ordered to press.

(*i*) Supplementary tables are prepared in the discretion of the Director, such as comparisons for cities with the figures of previous years, tables showing the localization of industries, etc. These are then forwarded to the Director, who prepares the introductory text for the printer.

IV. The Municipal Division.

The regular staff of this division consists of a Chief of Division; a Chief Accountant whose duty is the supervision of the auditing of municipal accounts and the installation of accounting

systems under Chapter 598 of the Acts of 1910; four special agents, styled "examiners of accounts," who are engaged principally in field work in connection with verifying the schedules returned by local accounting officers and in obtaining data missing therefrom; one expert supervisory clerk in general charge of the editing and tabulation of schedules, the recording of town notes certified, etc.; six clerks whose entire time is devoted to editing schedules, checking the same to city and town reports, etc.; and five clerks part of whose time is devoted to editing schedules and part to examining and checking town notes, record keeping, and stenography. In addition to these, there are ten examiners of accounts (sometimes more) engaged in the auditing of municipal accounts and the installation of accounting systems.

The work of the Municipal Division falls into three classes: —

(*a*) *The gathering and compiling of statistics of municipal finances.* — The schedules which form the basis of these statistics are now eight in number, namely,—

Schedule A, the general schedule for the return of all financial transactions.

Schedule B, intended as a memorandum for the convenience of local officials in entering departmental receipts and payments which are not included in the treasurer's receipts and payments.

Schedule C, statement of debt.

Schedule D, report of sinking funds.

Schedule E, report of public trust funds.

Schedule F, report of private trust funds.

Schedule G, report of investment funds.

Schedule H, report of cemetery perpetual care funds.

Formerly there were but two schedules for this work, — the general schedule and the form for a statement of debt, — but supplementary schedules B, and D to H, inclusive, are now sent out with a view to obtaining more specific information in regard to the subjects covered by them than is possible to obtain on the general schedule.

The general schedule, the debt schedule, and such of the supplemental schedules as are believed to be applicable, are sent annually to each of the 353 municipalities of the Commonwealth. The theory of the law is that the schedules shall be sent by the Director to the accounting officer of each city

and town and that that official will fill out the same and return them to the Bureau. When returns are not received, agents are sent to those cities and towns which have failed to make returns in order to obtain the information from the books, with such assistance as the local officials can give.

The several processes incident to the preparation of the annual report on Municipal Finances are as follows: —

(1) The schedules, upon receipt in the office, are opened by the supervisory clerk who has general charge of editing and tabulating, their receipt recorded by her and acknowledged by a postal card form sent to the local officials forwarding the schedule; the schedules are then filed in separate jackets alphabetically by cities and towns.

(2) The schedules, as rapidly as possible, are given to the editing clerks who proceed to examine them and check them with city or town reports of auditors, treasurers, departments, etc., and also with the reports of the State Treasurer and State Auditor with respect to the numerous transactions in which the municipalities have relation with the Commonwealth. The supplemental schedules are examined and the information incorporated with Schedule A, if it has not already been included by the official making the return. This process results in the transposition or correction of numerous items erroneously entered, notes being carefully made in regard to all changes; these notes, together with the clerk's work sheets, are permanently filed with the schedule for future reference, if required.

This branch of the work requires an expert knowledge of classifications and a high order of ability with respect to extremely technical matters so that it has been necessary to train clerks especially for it. For this reason, progress was necessarily slow during the organization period, but there has since been observed a very marked gain with respect to both the efficiency and rapidity with which the work of editing schedules has proceeded. The editing clerks, after completion of the examination of the schedules, always have, in the nature of the case, a certain number of matters which are not clear to them and which cannot be satisfactorily adjusted without the assistance of some one having a more intimate knowledge of actual accounting and financial practice. They, therefore, make note of such inquiries as require further consideration.

(3) When a clerk has completed the editing of a schedule, it is given, with her list of inquiries, to a special agent, who is generally able to reduce to a minimum the amount of field work required, but who, if necessary, visits the city or town and obtains the desired information by conference with the local officials or recourse to the books of account.

(4) The revision of the schedule having in this manner been completed, it is then regarded as ready for tabulation, which is begun as soon as a sufficient number of schedules are in proper condition to make it practicable for the data to be drawn off. The tabulations are made on work sheets in pencil and submitted to the Chief of the Division, who scrutinizes the same with a view to making note of such features as become prominent by comparison of one city or town with another of approximately the same size or by comparison with the corresponding tabulations of the preceding year. This critical examination by the comparative process not infrequently brings to light peculiarities or apparent discrepancies which the original editing of a schedule, when considered independent of its relation to others, failed to disclose. When such changes as may be deemed necessary or desirable as a result of this examination have been made in the tabulation, a second copy in ink is made and sent to the printer.

(5) When returned from the printer in proof, the latter is read and checked with the schedules, and all tabulations in which the same figures occur are carefully compared to make certain of agreement.

(6) Meantime, the Director of the Bureau has decided upon such supplementary tabulations as he may desire for use in analyzing the primary tables and upon any particular features which he wishes to emphasize in the introductory text to the report. With these tables in manuscript and the proof of the body of the report before him, he prepares the introductory text for the printer. Upon the receipt of the text from the printer in proof form, all figures used therein are checked back to the original tables, citations verified, etc., the index of the report prepared, and it is ready for the press.

(*b*) *Certification of town and district notes.* — By the provisions of Chapter 616 of the Acts of 1910, the Director of the Bureau of Statistics was required to furnish to the treasurer of

every town within the Commonwealth a book of forms for the issue of notes for money borrowed by the town, and after January 1, 1911 all town notes were required to be made out on these forms and sent to the Director of the Bureau for certification. The steady increase in the number and amount of notes certified, which has been apparent each year since the law took effect, would seem to indicate an increasing disposition on the part of towns to issue their debt in the form of notes which are subject to certification by this department in preference to bonds for which no corresponding examination and certification is required. By the provisions of Chapter 727, Acts of 1913, notes of fire, water, watch, light, and improvement districts were made subject to certification by the Director of the Bureau of Statistics in a manner similar to that required in the case of town notes.

During the first year of the operation of the law the Director had no option but to certify notes if the same appeared to be in accordance with the vote of the town, even though it appeared to him that the vote under which it was proposed to make the loan did not comply with the general statutes governing the incurrence of municipal debt. Upon his recommendation, therefore, the Legislature, early in 1912, passed an act authorizing him to refrain from certifying, if, in his opinion, the general statutes governing municipal indebtedness had not been complied with. The routine for the certification of town and district notes is as follows: —

(1) Letters or packages containing notes forwarded by treasurers for certification are first examined for the purpose of ascertaining whether the same are accompanied by the amount of the fee required for certification ($2 for each note). Receipt of the check, cash, or money order, as the case may be, is recorded in a book kept for the purpose, being credited to the proper town or district, and the amounts thus received are deposited in the bank as a trust account.

(2) Each certificate is then stamped with the date of receipt and the facts in regard to each note and corresponding certificate are recorded in books provided for the purpose, one of which consists of a daily record of all notes received, the other being a separate record of each individual note.

(3) All notes and corresponding certificates are checked to each other to see that they are in agreement. The note and certificate are examined by the Chief of the Division, and frequently in conference with the Director, whenever there is any question as to whether in the making of the note the laws relating to municipal indebtedness have been complied with.

(4) If the note appears to have been issued in accordance with the vote of the town or district and the statutes governing the proposed loan seem to have been properly observed, identification certificates are at once forwarded to each of the signers purporting to have signed the note; upon their return properly signed, the signatures are compared and the note is certified by the Director and returned to the town or district treasurer by registered mail, or delivered to the payee, in accordance with law. A receipt for the fee is made in duplicate, one being sent to the Treasurer and a carbon copy being retained both as an office record and to facilitate the State Auditor in auditing our accounts. The form of certificate on the town note is as follows: —

I certify that this note appears to have been duly issued in accordance with a vote of the town and to have been signed by the duly qualified officials thereof, as provided by Chapter 616 of the Acts of 1910. (The form of certificate on district notes is the same.)

If there are any discrepancies between the statements on the face of the note and on the corresponding town or district clerk's certificate, the note or certificate or both is returned for rectification of the error, with a letter of explanation and instructions; or if the treasurer has neglected to transmit the certification fee, he is required to do so before the note is certified.

(5) After a note has been certified, the town or district clerk's certificate, with the various identification certificates attached, is filed in boxes provided for the purpose, there being one box for each town and district; these original papers are kept under lock and key, and are preserved for future reference and for the inspection of any one who may desire to see them.

(6) As soon as notes are certified the Director as Trustee draws his check for the amount of fees for notes certified and deposits the same in another bank. At the end of each month

the Director draws his check for the total amount of fees received for notes certified during the month and sends the same to the Treasurer of the Commonwealth.

(*c*) *The auditing of municipal accounts and the installation of accounting systems.* — This work is proceeding in accordance with the provisions of Chapter 598 of the Acts of 1910, and amendments thereof. Under this Act cities are authorized to petition the Director of the Bureau of Statistics for an audit to be made of their accounts, or for the installation of an accounting system, or both; and towns are authorized to petition for an audit of their accounts, in connection with which the Director of the Bureau is required to cause an accounting system to be installed suitable to the needs of the town. Chapter 598, Acts of 1910, was approved by the Governor on June 9, 1910, and the first petition received under the same was from the town of Swampscott in the fall of that year. The first city to take action under the law was Haverhill, which petitioned for the installation of an accounting system in January, 1911. Including these, 14 cities and 48 towns have petitioned [1] under the act for the services of the Bureau of Statistics, as follows: —

Amesbury	Lanesborough	Raynham
Amherst	LAWRENCE	Russell
Ashland	LOWELL	Sandisfield
Avon	Ludlow	Sandwich
Bedford	LYNN	Saugus
BROCKTON	Manchester	Sharon
Carlisle	Mashpee	Southborough
Dedham	Medfield	Southbridge
Deerfield	MEDFORD	Southwick
Dracut	MELROSE	SPRINGFIELD
Gardner	Needham	Stockbridge
GLOUCESTER	NEWTON	Swampscott
Goshen	Northfield	TAUNTON
Gosnold	Oak Bluffs	Tisbury
Halifax	Orange	Uxbridge
Hamilton	Palmer	Wakefield
Hardwick	Peru	Walpole
HAVERHILL	Petersham	Weston
Holliston	PITTSFIELD	Winchendon
Hopkinton	Plymouth	WOBURN
Ipswich	QUINCY	

[1] To January 1, 1915.

The system of accounting installed, wherever practicable, is such as will show both revenues received and receivable as well as the expenses, in classified form, whether paid or payable, thereby enabling the presentation of a balance sheet such as in most cases under the old methods of accounting prevailing was impossible or not attempted. The method pursued in the process of auditing and the considerable number of forms devised in connection with the installation of systems of accounting which are designed to be as nearly uniform as possible are such that they cannot be adequately described without involving a multitude of details which it does not seem practicable to enter upon in a statement of this character, since a proper understanding of the same would require personal examination of the several forms and verbal explanations of the same.

V. The Census Division.

This division is brought into existence with the passage every tenth year of an act providing for taking the Decennial Census of the Commonwealth in accordance with the provisions of Articles XXI and XXII of the Amendments of the Constitution. These two constitutional provisions which form the organic law for the State Census are identical in respect to the following requirements: —

> A census of the legal voters of each city and town, on the first day of May, shall be taken and returned into the office of the secretary of the commonwealth, on or before the last day of June, in the year eighteen hundred and fifty-seven; and a census of the inhabitants of each city and town, in the year eighteen hundred and sixty-five, and of every tenth year thereafter. In the census aforesaid, a special enumeration shall be made of the legal voters; and in each city, said enumeration shall specify the number of such legal voters aforesaid, residing in each ward of such city.

The State Census of population and legal voters is therefore taken midway between the decennial years in which the United States Census of population is taken. Both the United States and the state censuses are taken primarily for political purposes, the former for the purpose of determining representation in Congress, which is based on population; and the latter for the

purpose of determining representation in the Legislature, which is based on the number of legal voters. Both the United States and the Commonwealth, however, in passing the necessary enabling acts just prior to each census period, always provide for obtaining considerable information bearing upon the social and economic condition of the people in addition to obtaining a mere count of individuals. Massachusetts, therefore, has a complete census every five years. Since 1875, the State Census has been taken and its results published by the Bureau of Statistics.

The act to provide for taking the Decennial Census of 1915 (Chapter 692, Acts of 1914, approved June 20, 1914) authorizes an expenditure of $400,000 for the work, which is to include a census of fisheries and commerce as well as of population. The several inquiries comprising the schedules (which are printed on cards, one for each person in the population) are determined by the Director of the Bureau of Statistics subject to the approval of the Governor and Council, and contemplate the securing of information which will enable tabulations to be made showing the population of all cities and towns of the Commonwealth by age; sex; color and race; place of birth; parent nativity (*i.e.*, by country of birth of father and mother); conjugal condition; ability to read and write English, or if not, what language; occupation according to trade or profession; nature of industry in which employed; and number of years resident in Massachusetts and the United States.

To obtain this information some 2,000 field enumerators, whose work begins April 1, are required, besides various special agents and inspectors; and, when the office work of editing schedules and tabulating is at its maximum, approximately 125 clerical employees will be required, although a great deal of the work formerly done by hand it is now possible to do by improved mechanical devices. The length of time estimated for preparation, enumeration (field work), editing, tabulating, and publishing results is about three years, but a return of the population and number of legal voters only must be made to the Secretary of the Commonwealth in season to enable him to transmit the same to the Legislature early in January of its session next after the taking of the census.

The principal administrative provisions of the Census Act for 1915 are as follows: —

SECTION 2. For the purpose of obtaining the information called for by this act, the director of the bureau of statistics shall divide the commonwealth into enumeration districts, and he shall have authority to appoint enumerators, interpreters, inspectors and special agents who shall be paid such rates of compensation as may be fixed by him, subject to the approval of the governor and council, except that in extreme emergencies or in districts in which suitable enumerators and interpreters cannot be obtained at the rate of compensation fixed as aforesaid, the director may fix a rate which, in his judgment, is reasonable under the circumstances; and the appointment of enumerators, interpreters, inspectors and special agents shall be in accordance with such rules and tests as the director may, with the approval of the civil service commission, devise for this purpose: *provided, however*, that enumerators shall be, so far as is practicable, residents of the cities and towns for which they are appointed. From the persons so appointed, the director may select for clerical work in examining and tabulating the returns and preparing the results of the census for publication such as may, by virtue of experience and training acquired in the work of the census, be deemed especially qualified therefor. All clerks, stenographers and other employees necessary in connection with the taking of the census and the analysis and publication of the results thereof, except as is otherwise provided herein, shall be appointed in accordance with the provisions of chapter nineteen of the Revised Laws,[1] and the amendments thereof, and the compensation of such employees shall be determined in the same manner as that of the regular employees of the bureau of statistics. . . . Any person employed under the provisions of this act who is found incompetent or derelict in the performance of his duty may be removed by the director of the bureau of statistics and a successor immediately appointed.

SECTION 4. The enumerators, interpreters, inspectors, special agents and other persons appointed under this act shall be furnished with a commission certifying to their appointment, and before entering upon the discharge of their duties shall take and subscribe an oath or affirmation that they will faithfully perform to the best of their ability the duties imposed upon them and that they will support the constitution and laws of the commonwealth; and each enumerator in making returns to the bureau shall sign and transmit therewith a certification, properly sworn to, that the information reported in such returns is correct to the best of his knowledge and belief.

SECTION 5. Upon the completion of the canvass of the district to which he is assigned, each enumerator shall forward to the director of the bureau of statistics a voucher properly sworn to, certifying to the number of days taken in making the canvass, the number of persons enumerated,

[1] The Civil Service Law.

and such other facts as may be required by said director; and each interpreter shall file a voucher in proper form for services rendered. No allowance or compensation shall be made to any enumerator or interpreter except upon the approval by the director of the bureau of statistics of vouchers filed as aforesaid, and no allowance shall be made to any enumerator or interpreter for travelling or other expenses in addition to the fixed rate of pay, except in extreme cases, when, in the opinion of said director, such extra allowance would secure economy in the enumeration; and in no case shall any such extra allowance be made except upon the previous written authority of said director to incur such expenses nor except upon the presentation of a proper voucher covering the same: *provided, however*, that enumerators employing interpreters at their own expense without authorization in advance, may, within the discretion of said director, be allowed reimbursement for expenses so incurred; nor shall any allowance of pay for an enumerator or interpreter be made until the district to which he is assigned has been canvassed to the satisfaction of the director of the bureau of statistics, nor shall full payment be allowed an enumerator until all schedules furnished to him have been returned, examined, and accepted for tabulation. Said director may, before making allowances of pay, require any enumerator to make needed corrections of errors in his schedules without additional pay, and if an enumerator declines to make such corrections, or if, in the judgment of said director, it is deemed necessary to cause such correction or a re-enumeration of any part of such enumerator's district to be made by some other person, the cost of making the corrections or re-enumeration may be deducted from the amount that would otherwise have been allowed to him.

SECTION 6. The information obtained under the provisions of this act shall be deemed confidential as respects individuals and no disclosures shall be made of names or any other data relating to individuals or of the names of individuals supplying the information called for by this act, except as is authorized by chapter three hundred and eighty-five of the acts of the year nineteen hundred and six. Any person employed under the provisions of this act or any officer or other employee of the bureau of statistics who improperly discloses information furnished in confidence in accordance with this act, or who wilfully refuses to perform any duty required of him in accordance with law, or who is guilty of wilful deceit or falsehood in the discharge of his duty shall be subject to a fine not exceeding two thousand dollars or imprisonment for not more than one year; and any person who refuses to furnish information as required by this act to a person authorized to collect the same shall be liable to pay a fine not exceeding one thousand dollars for every such refusal. All fines imposed by this act may be recovered in any court of competent jurisdiction, by information or complaint of the attorney-general, and shall accrue to the commonwealth.

SECTION 9. The director of the bureau of statistics shall cause to be prepared and printed, in such detail and with such analyses as he may deem advisable, tabulations of the various classes of information gathered

in accordance with this act; and he may publish the same in bulletins from time to time in such number as may be necessary in his judgment to meet the legitimate demand therefor, reserving not less than twenty-one hundred copies of each issue for subsequent binding as herein provided for. When a series of said bulletins covering related subjects has been completed, he may cause the same to be suitably bound in volumes, and these, with such other volumes containing information gathered in the census, as may be prepared, shall be distributed under the direction of the secretary of the commonwealth. . . .

SECTION 10. In addition to the preparation and publication of the tabulations provided for in section nine of this act, the director of the bureau of statistics is authorized to prepare from information obtained in the census such special tabulations from time to time as may be desired by any individual or organization, and to charge therefor a reasonable sum, based upon the cost of making the same. All fees received under the provisions of this section shall be paid into the treasury of the commonwealth.

VI. THE FREE EMPLOYMENT OFFICES.

The act relating to Free Employment Offices (originally Chapter 435 of the Acts of 1906, subsequently incorporated with Chapter 514 of the Acts of 1909) provides that "there shall be established and maintained under the care and direction of the Director of the Bureau of Statistics, and with the approval of the Governor and Council, employment offices for the purpose of bringing together those seeking employment and those who desire to employ." Under this law, four offices have been established, the first having been opened for business in Boston, December 3, 1906; another at Springfield, September 4, 1907; one at Fall River, October 1, 1907; and the fourth at Worcester, September 15, 1913.

Each office is in charge of a superintendent, and in addition to the superintendent at the Boston office there are regularly employed 11 clerks, a stenographer, three laborers, and a messenger; at the Springfield office there are employed a superintendent, three clerks, a stenographer, and a laborer; at the Worcester office, a superintendent, two clerks, a stenographer, and a laborer; while at the Fall River office the superintendent is able to transact the business of that office with the assistance of one laborer only. An annual report is made by the Director of the Bureau to the Legislature covering the operations of the several offices, to which reference may be had for more detailed information regarding them.

PUBLICATIONS OF THE MASSACHUSETTS BUREAU OF STATISTICS.

1869–1915.

CLASSIFIED BY SUBJECTS AND TITLES.

I. LABOR.

ANNUAL REPORTS ON THE STATISTICS OF LABOR. 1870–1914. [Pub. Doc. 15.]

Containing statistical and other information relating to matters affecting conditions of employment among the wage-earning population.

LABOR BULLETINS. 1897–1914.

Containing statistical and other information relating to matters affecting conditions of employment among the wage-earning population.

QUARTERLY REPORTS ON UNEMPLOYMENT OF ORGANIZED WAGE-EARNERS. 1908–1914.

Containing the number and membership of organizations reporting at the end of each quarter, and data relative to the state of employment in Massachusetts.

SPECIAL REPORT ON COST OF RETIREMENT SYSTEMS FOR STATE AND COUNTY EMPLOYEES, 1911.

II. MANUFACTURES.

ANNUAL REPORTS ON THE STATISTICS OF MANUFACTURES. 1886–1913. [Pub. Doc. 36.]

Containing statistics of capital invested, materials used, wages paid, value of product, etc.

INDUSTRIAL INFORMATION CIRCULARS. 1903–1906.

Containing information for the manufacturer, merchant, and exporter, based on daily reports of the bureau of manufactures of the national department of commerce and labor.

DIRECTORY OF MANUFACTURES, 1913.

REPORT ON POWER LAUNDRIES, 1913.

III. FREE EMPLOYMENT OFFICES.

ANNUAL REPORTS ON THE FREE EMPLOYMENT OFFICES. 1907–1914. [Pub. Doc. 80.]

Containing statistical tables and descriptive matter relative to the work of the offices maintained under the jurisdiction of this bureau in Boston, Springfield, Fall River, and Worcester.

FREE EMPLOYMENT OFFICES GAZETTE. 1906–1907.

Containing descriptive matter relative to the work of the Boston office previous to the publication of the first annual report on the state free employment offices.

IV. MUNICIPAL.

ANNUAL REPORTS ON THE STATISTICS OF MUNICIPAL FINANCES. 1906–1912. [Pub. Doc. 79.]

Containing statistics pertaining to the cost of municipal government in Massachusetts; revenue, maintenance, interest payments, and municipal indebtedness.

MUNICIPAL BULLETINS. 1910–1913.

Containing matter relating to municipal affairs, especially finances, and intended to promote a sound and efficient administration of city and town government in Massachusetts.

REPORTS OF SPECIAL INVESTIGATIONS OF MUNICIPAL INDEBTEDNESS.

V. CENSUS.

CENSUS REPORTS. 1875–1910.

Containing statistics of population, manufactures, agriculture, fisheries, and commerce, and social statistics of the Commonwealth.

DESCRIPTIVE LIST IN DETAIL.

REPORTS ON THE STATISTICS OF LABOR.

[An asterisk (*) indicates that the publication is out of print.]

The publication of the annual report on the statistics of labor began in 1870.

*(1) **1870.** 423 p. Organization and early operations of the Massachusetts bureau of statistics of labor — Labor and its attendant legislation — Cotton manufacturing — Agricultural labor — Labor and legislation in Massachusetts — Origin of labor movement — Origin and development of industrial questions — Factory system — Children in factories, their employment and schooling — Wage system and its results — Homes of low-paid laborers in Boston — Homes of the middle class — Intemperance — Questionnaire on labor conditions — Summary of Massa-

chusetts laws in relation to or affecting labor, 1833–1869 — List of books relating to questions of industry, to be found in the state library.

*(2) **1871.** 655 p. Combination — Gilds — Trades-unions — Strikes — Strikes in Massachusetts, 1870 — Labor conditions in agriculture, commerce, domestic labor and women's work, and selected industries — Cost of living — Co-operation — Work and home life of factory operatives, their earnings, etc. — Hours of labor in Europe — Tenement houses or homes of low-paid laborers in Boston — Poverty — Intemperance — Questionnaire on labor conditions — English half-time schools.

*(3) **1872.** 598 p. Labor conditions in agriculture, commerce, domestic labor and women's work, and selected industries — Cost of living — Savings banks — Questionnaire on labor conditions — Education of working children — Purchasing power of wages in England, and in Massachusetts from 1630 to 1870 — Co-operative associations in Germany — Education in Prussia — Labor in Austria and Hungary — Truck system in England.

*(4) **1873.** 522 p. History and work of the Massachusetts bureau of statistics — Wages of skilled and unskilled laborers in Massachusetts — Cost of living — Savings banks — Ownership of property — Hours of labor — Labor movement, United States and Great Britain — Questionnaire on labor conditions — Labor conditions in the early part of the century — Co-operation — Tenement houses in Salem — Education of working children — Labor conditions in Massachusetts — Poverty — Wages — Reduction of hours of labor.

*(5) **1874.** xi, 281 p. Education and employment of young persons and children, and digest of American and European laws relative to the subject — Labor conditions among clergymen and teachers in Massachusetts — Sanitary condition of working people in their homes and employments — Comparative rates of wages and hours of labor in Massachusetts and foreign countries — Condition of textile fabric manufactories in Massachusetts and digest of English laws relative to machinery and sanitary matters — Cost of living in Massachusetts and Europe — Savings banks.

*(6) **1875.** x, 503 p. Education of working children — Special effects of certain forms of employment upon female health — Factory legislation — Condition of workingmen's families — Co-operation.

*(7) **1876.** xvi, 363 p. Wage receivers — Salary receivers — History of the bureau of statistics of labor and of labor legislation in Massachusetts.

*(8) **1877.** viii, 295 p. Industrial arbitration and conciliation in England and Massachusetts — Co-operation in Massachusetts — Motive power of Massachusetts — Afflicted classes (blind, deaf, dumb, idiotic, and insane) — Pauperism and crime — Massachusetts manufactories: persons employed in each story, and their means of escape in case of fire.

*(9) **1878.** (6), 266 p. Comparative conditions of manufactures and labor, 1875 and 1877 — Education and labor of the young. The half-time system — Growth of Massachusetts manufactures — Relative importance of private establishments and corporations in manufacturing industries — Conjugal condition, nativity, and age of married women and mothers — Nativity, age, and illiteracy of farmers, skilled and unskilled laborers.

*(10) **1879.** xviii, 180 p. Unemployed in Massachusetts, June and November, 1878 — Convict labor — Wages and prices, 1860, 1872, and 1878 — Questionnaire on labor conditions — Hours of labor — Statistics of drunkenness and liquor selling under prohibitory and license legislation, 1874 and 1877.

*(11) **1880.** xi, 294 p. Strikes in Massachusetts, 1830–1879 — Convict labor — Statistics of crime, 1860–1879 — Divorces in Massachusetts, 1860–1878 — Social life of workingmen.

*(12) **1881.** xvi, 531 p. Industrial arbitration and conciliation — Statistics of drunkenness and liquor selling, 1870–1879 — Uniform hours of labor — Influence of intemperance upon crime.

*(13) **1882.** xiv, 459 p. Canadian French in New England — Citizenship — Labor conditions in Fall River, Lowell, and Lawrence — Wages, prices, and profits.

*(14) **1883.** xi, 401 p. Employers' liability for personal injuries to their employees — Time and wages — Profits and earnings — Early factory labor in New England.

*(15) **1884.** xv, 469 p. Working girls of Boston — Comparative wages, 1883, Massachusetts and Great Britain — Comparative wages, 1860–1883, Massachusetts and Great Britain — Comparative prices and cost of living, 1860–1883, Massachusetts and Great Britain.

*(16) **1885.** xix, 532 p. Industrial history of Pullman — Sunday labor — Comparative wages and prices, 1860–1883, Massachusetts and Great Britain — Historical review of wages and prices, 1752–1860 — Health statistics of female college graduates.

*(17) **1886.** xviii, 393 p. Henry Kemble Oliver. Biographical sketch — Cooperative distribution in Great Britain — Profit sharing — Food consumption: quantities, costs, and nutrients of food materials — Art in industry.

*(18) **1887.** x, 294 p. The unemployed in Massachusetts.

*(19) **1888.** xiv, 225 p. Strikes and lockouts in Massachusetts, 1881–1886 — Citizens and aliens.

(20) **1889.** xxxv, 649 p. Relation of wages to the cost of production — Markets, transportation, imports, exports, and competition — Condition of employees — Growth of manufactures — Classified weekly wages — Daily working time — Women in industry — Index to annual reports on the statistics of labor, 1870–1889.

*(21) **1890.** xxxi, 630 p. Labor laws of Massachusetts — Population of Massachusetts, 1890 — Abandoned farms — Net profits in manufacturing industries.

*(22) **1891.** xxvii, 579 p. Labor legislation in Massachusetts, 1892 — Tenement house census of Boston. Section 1. Tenements, rooms, and rents.

*(23) **1892.** xxxix, 440 p. Labor legislation in Massachusetts, 1893 — Tenement house census of Boston. Section 2. Sanitary condition of tenements — Section 3. Place of birth, occupations, etc., of residents in tenement houses.

(24) **1893.** xiii, (2), 311 p. Unemployment — Labor chronology.

(25) **1894.** xvii, (2), 337 p. Compensation in certain occupations of graduates of colleges for women — Distribution of wealth (probates) — Labor chronology.

*(26) **1895.** xvii, (2), 748 p. Relation of the liquor traffic to pauperism, crime, and insanity — Graded weekly wages, Massachusetts, other United States, and foreign countries, 1810–1891 — Labor chronology.

(27) **1896.** xv, (2), 353 p. Social and industrial changes in the county of Barnstable — Graded weekly wages, Massachusetts, other United States, and foreign countries, 1810–1891 — Labor chronology.

(28) **1897.** xiv, (2), 367 p. Comparative wages and prices, Massachusetts, 1860–1897 — Graded weekly wages, Massachusetts, other United States, and foreign countries, 1810–1891 — Labor chronology.

(29) **1898.** xxviii, 659 p. Sunday labor — Graded weekly wages, Massachusetts, other United States, and foreign countries, 1810–1891 — Labor chronology.

(30) **1899.** xxi, (2), 247 p. Changes in conducting retail trade in Boston since 1874 — Labor chronology.

(31) **1900.** xvi, (2), 792 p. Population of Massachusetts, 1900 — Insurance of workingmen — Graded prices, Massachusetts, other United States, and foreign countries, 1816–1891.

(32) **1901.** xviii, (2), 357 p. Labor chronology — Prices and the cost of living, Massachusetts, 1872, 1881, 1897, and 1902 — Labor laws of Massachusetts.

(33) **1902.** v, 260 p. Labor chronology — Mercantile wages and salaries — Sex in industry.

(34) **1903.** xix, 436 p. Race in industry — Free employment offices in the United States and foreign countries — Social and industrial condition of the negro in Massachusetts — Labor and industrial chronology.

(35) **1904.** xiii, 303 p. Actual weekly earnings — Causes of high prices — Labor and industrial chronology.

(36) **1905.** xxiii, 613 p. Industrial education of working girls — Cotton manufactures in Massachusetts and the southern states — Old age pensions — Industrial opportunities not yet utilized in Massachusetts — Statistics of manufactures, Massachusetts, 1903–1904 — Labor and industrial chronology.

(37) **1906.** xxx, 664 p. Apprenticeship system — Trained and supplemental employees for domestic service — Incorporation of trade unions — Statistics of manufactures, Massachusetts, 1904–1905 — Labor laws of Massachusetts — Labor and industrial chronology.

(38) **1907.** xxv, 663 p. Strikes and lockouts in Massachusetts, 1906 — Recent British legislation affecting workingmen — Industrial opportunities not yet utilized in Massachusetts — Statistics of manufactures in Massachusetts. Comparisons for 1905 and 1906 — First annual report on the Massachusetts state free employment offices, 1907 — Strikes and lockouts in Massachusetts, 1907 — First annual report on changes in rates of wages and hours of labor in Massachusetts, 1907.

*(39) **1908.** xii, 319 p. Strikes and lockouts in Massachusetts, 1908 — First annual report on labor organizations in Massachusetts, 1908 — Changes in rates of wages and hours of labor in Massachusetts, 1908.

(40) **1909.** xii, 404 p. Changes in rates of wages and hours of labor in Massachusetts, 1909 — Strikes and lockouts in Massachusetts, 1909 — Labor organizations in Massachusetts, 1909 — Carroll D. Wright. A memorial.

*(41) **1910.** ix, 333 p. Prevailing time-rates of wages and hours of labor in selected occupations in Massachusetts, 1910 — Strikes and lockouts in Massachusetts, 1910 — Living conditions of the wage-earning population in certain cities of Massachusetts.

(42) **1911.** x, 318 p. Strikes and lockouts in Massachusetts, 1911 — Labor organizations in Massachusetts, 1911 — Collective agreements between employers and labor organizations in Massachusetts, 1911, and in foreign countries.

(43) **1912.** ix, 266 p. Immigrant population of Massachusetts — Labor bibliography, 1912 — Strikes and lockouts in Massachusetts, 1912.

(44) **1913.** xv, 511 p. Directory of labor organizations in Massachusetts, 1913 — Labor legislation in Massachusetts, 1913, with text of legislation for 1912 and cumulative index of the labor laws in effect December 31, 1913 — Labor organizations in Massachusetts, 1912.

(45) **1914.** x, I–72, II–55, III–12, IV–150, V–183, VI–63, VII–157. Union scale of wages and hours of labor in Massachusetts, 1913 — Directory of labor organizations in Massachusetts, 1914 — Immigrant aliens destined for and emigrant aliens departed from Massachusetts, 1913 — Labor bibliography, 1913 — Industrial home work in Massachusetts — Action affecting labor during the legislative session of 1914 — Wages and hours of labor in the paper and wood pulp industry in Massachusetts.

LABOR BULLETINS.

The publication of the labor bulletin began in January, 1897.

***No. 1. January, 1897.** 36 p. Pay of city laborers — Savings in Massachusetts.

***No. 2. April, 1897.** 34 p. Strikes and lockouts in Massachusetts, 1887–1894 — Prison industries in Massachusetts — Cotton industry — Tramp census.

***No. 3. July, 1897.** 40 p. Hours of labor — Model houses — Establishment and work of the Massachusetts state board of arbitration and conciliation — Comparative wages and earnings, New Jersey and Massachusetts, 1895.

***No. 4. October, 1897.** 32 p. Wages under contracts for public work — Baltimore and Ohio relief department — Accidents to employees in Massachusetts.

***No. 5. January, 1898.** 43 p. Cotton manufacturing in Massachusetts and the south, 1890–1897 — Home ownership in Massachusetts.

***No. 6. April, 1898.** 27 p. Wealth accumulation through life insurance, 1890–1895 — Legislation of 1897, United States, relating to hours of labor, and employment of women and children — Employment and earnings in Massachusetts, quarter ending January, 1898.

***No. 7. July, 1898.** 38 p. Improvement of the slums in London — Employment and earnings in Massachusetts, quarter ending May, 1898 — Productive age of workers in Massachusetts.

***No. 8. October, 1898.** 43 p. Hours of labor in domestic service — Employment and earnings in Massachusetts, quarter ending September, 1898.

***No. 9. January, 1899.** 36 p. Comparative position of Boston wages, 1870–1898 — Aims of trades unions in England — Maintenance of the standard of living — Employment and earnings in Massachusetts, quarter ending January, 1899.

No. 10. April, 1899. p. 37–74. Legislation of 1898, United States, relating to hours of labor, and employment of women and children — Trade unionism in Massachusetts prior to 1880 — Contracts with workingmen upon public work — Foreign labor disturbances in 1897 — Employment and earnings in Massachusetts, quarter ending April, 1899.

***No. 11. July, 1899.** p. 75–118. Certain tenement conditions in Boston — Employment and earnings in Massachusetts, quarter ending July, 1899.

***No. 12. October, 1899.** p. 119–170. Study of charity statistics — Employment and earnings in Massachusetts, quarter ending October, 1899.

***No. 13. February, 1900.** 44 p. Social conditions in domestic service — Employment and unemployment in the textile industries — Collateral legacy and succession tax in Massachusetts — Employment and earnings in Massachusetts, quarter ending January 31, 1900.

No. 14. May, 1900. p. 45–88. Free public employment offices — Employment and unemployment in the boot and shoe and paper industries — Legislation of 1899, United States, affecting hours of labor — Employment and earnings in Massachusetts, quarter ending April 30, 1900.

No. 15. August, 1900. p. 89–136. Household expenses — Comparative occupation statistics for the cities of Fall River, New Bedford, and Taunton — List of subjects pertaining to labor considered in the latest reports of American statistical bureaus — Massachusetts labor legislation, 1900 — Employment and earnings in Massachusetts, quarter ending July 30, 1900.

***No. 16. November, 1900.** p. 137–174. Persons employed in Massachusetts industries — Three leading Massachusetts professions — Recent immigration at the port of Boston — Employment and earnings in Massachusetts, quarter ending October 31, 1900.

***No. 17. February, 1901.** 28 p. Occupations of residents of Boston, by districts — Unemployment in Boston building trades — Conjugal condition of women employed in restaurants — Comparative earnings in five leading industries — Resident pupils in public and private schools in Boston.

***No. 18. May, 1901.** p. 29–66. Social statistics of workingwomen — Employment and earnings in Massachusetts, six months ending April 30, 1901 — Residential conditions of women and girls employed in trade and manufactures.

***No. 19. August, 1901.** p. 67–116. Relative cost of home-cooked and purchased food — Legislation of 1900, United States, affecting hours of labor — Leading court decisions relating to labor, 1900 — Strikes in Massachusetts, six months ending June 30, 1901 — Saturday half-holiday for city employees — Massachusetts labor legislation, 1901.

***No. 20. November, 1901.** p. 117–154. Statistics of retail trade — Compulsory arbitration in New Zealand — Employment and earnings in Massachusetts, six months ending October 31, 1901 — General statistics of Massachusetts cities — Women in industry — Strikes in Massachusetts, quarter ending September 30, 1901 — Historical note on the eight-hour movement.

***No. 21. February, 1902.** 38 p. Physically defective population in Massa-

chusetts in relation to industry — Distribution of the industrial population of Massachusetts — Compulsory arbitration in New South Wales — Strikes in Massachusetts, quarter ending December 31, 1901.

***No. 22. May, 1902.** p. 39–66. Rates of wages in city employment — Progress of co-operation in Great Britain — Employment and earnings in Massachusetts, six months ending April 30, 1902 — Strikes in Massachusetts, quarter ending March 31, 1902.

***No. 23. August, 1902.** p. 67–98. Leading court decisions relating to labor, 1901 — Strikes in Massachusetts, quarter ending June 30, 1902 — Directory of labor organizations in Massachusetts, 1902.

No. 24. November, 1902. p. 99–134. Employment and earnings in Massachusetts, six months ending October 31, 1902 — Strikes in Massachusetts, quarter ending September 30, 1902 — Classes occupied in Massachusetts manufactures — Directory of labor organizations in Massachusetts, 1902 (reprint).

No. 25. February, 1903. 56 p. Chinese in Massachusetts — Unemployed in Massachusetts — Retired with a competency — Dependents upon public or private charity — Strikes in Massachusetts, quarter ending December 31, 1902 — Strikes and lockouts in Massachusetts, 1830–1879.

***No. 26. May, 1903.** p. 57–104. Trade and technical education in Massachusetts — Laws relating to child labor, United States — Employment and earnings in Massachusetts, six months ending April 30, 1903 — Strikes in Massachusetts, quarter ending March 31, 1903 — Recent legal labor decisions.

No. 27. August, 1903. p. 105–148. Aliens in industry — Immigration act of the United States — Labor day — Labor legislation in Massachusetts, 1903 — Strikes in Massachusetts, quarter ending June 30, 1903.

***No. 28. November, 1903.** p. 149–218. Aliens and citizenship — Industrial studies. No. 1. Agriculture — Industrial agreements — Proportional earnings and production — Employment and earnings in Massachusetts, six months ending October 31, 1903 — Strikes in Massachusetts, quarter ending September 30, 1903 — Trade and technical education — Labor legislation in other states and foreign countries — Recent legal labor decisions.

No. 29. January, 1904. 48 p. Eight-hour day — Licensing of barbers — Early closing and half-holiday laws of Australasia — Industrial studies. No. 2. Proprietors — Palaces for the people — Strikes in Massachusetts, quarter ending December 31, 1903.

No. 30. March, 1904. p. 49–104. National trades associations — Massachusetts-born living in other states — Industrial betterments — Partial religious canvass of Boston — Strikes and lockouts in Massachusetts, January and February, 1904 — Prices of certain articles of food in Toronto, Canada, and Massachusetts — Industrial agreements — Labor legislation in other states and foreign countries — Recent legal labor decisions.

No. 31. May, 1904. p. 105–160. City labor in Massachusetts — Employment and earnings in Massachusetts, six months ending April 30, 1904 — Average retail prices in seventeen Massachusetts cities, April, 1904 — Strikes and lockouts in Massachusetts, March and April 1904 — Industrial agreements — Labor legislation in other states and foreign countries — Recent legal labor decisions.

No. 32. July, 1904. p. 161–236. Child labor in the United States and Massachusetts — Net profits of labor and capital — Inheritance tax — Absence after pay day — Pay of navy yard workmen — Labor legislation in Massachusetts, 1904 — Industrial agreements — Recent legal labor decisions.

***No. 33. September, 1904.** p. 237–288. Labor and education — Night work in textile mills — Industrial agreements — Recent legal labor decisions — Trade union directory, Massachusetts, 1904.

No. 34. December, 1904. p. 289–384. Increases in the cost of production — Employment and earnings in Massachusetts, six months ending October 31, 1904 — Strikes and lockouts in Massachusetts, six months ending October 31, 1904 — Strike of cotton operatives in Fall River — Average retail prices in Massachusetts,

April and October 1904 — Absence after pay day — Recent legal labor decisions — Industrial agreements.

No. 35. March, 1906. 60 p. Wage-earner and education — Free employment offices — Current comment on trade and manual training schools — Legislation regulating and prohibiting the employment of women and children in the United States — Recent legal labor decisions — Industrial agreements.

No. 36. June, 1905. p. 61–164. Tramps and vagrants. Census of 1905 — Loom system — Weekly day of rest — Wages and hours of labor on public works — Census enumerators of 1905 — Average retail prices in Massachusetts, October, 1904, and April, 1905 — Strikes and lockouts in Massachusetts, six months ending April 30, 1905 — Labor legislation in Massachusetts, 1905 — Current comment on profit sharing — Industrial agreements — Recent legal labor decisions.

***No. 37. September, 1906.** p. 165–272. Work of the Massachusetts bureau of statistics — Earnings of cotton-mill operatives — Old-age pensions — Industrial agreements — Recent legal labor decisions — Current comment on New York bakers' ten-hour law — Trade union directory, Massachusetts, 1905.

***No. 38. December, 1905.** p. 273–344. First trade census of Massachusetts, 1904 — Schools of industrial and mechanical drawing — Industrial schools of the Christian associations — Strikes and lockouts in Massachusetts, six months ending October 31, 1905 — Directory of employers' associations in Massachusetts — Average retail prices in Massachusetts, April and October 1905 — Alien arrivals destined for Massachusetts — Recent legal labor decisions — Industrial agreements.

***No. 39. January, 1906.** 44 p. Massachusetts immigrants — Alcohol in the trades — Legislation of 1905, United States, affecting hours of labor and employment of women and children — National civic federation conference on immigration, 1905 — Current comment on immigration — Recent legal labor decisions.

No. 40. March, 1906. p. 45–132. Method of taking a census — True basis of political representation — Restriction of immigration — Free employment offices, United States and foreign countries — Trade unions, United States and foreign countries — Wages paid employees in Charlestown navy yard and private establishments — Current comment on immigration — Industrial agreements — Trade union notes — Recent legal labor decisions.

***No. 41. May, 1906.** p. 133–240. Occupations of girl graduates, 1904 — Distribution of wealth — Inheritance tax in the United States — Strikes and lockouts in Massachusetts, 1901–1905 — Fall River sliding scale of wages — Welfare work in the cotton mills of Lowell — Nationality of Lowell cotton-mill operatives — Current comment on the apprenticeship system — Average retail prices in Massachusetts, April 1904, 1905, 1906 — Strikes and lockouts in Massachusetts, six months ending April 30, 1906.

No. 42. July, 1906. p. 241–312. Non-collectable indebtedness — Pawnbrokers' pledges — Hours of labor in certain occupations — Labor legislation in Massachusetts, 1906 — Current comment on the inheritance tax — Industrial information — Industrial agreements — Trade union notes — Recent legal labor decisions.

***No. 43. September, 1906.** p. 313–424. Principles and methods of organizing trade schools — Textile schools in the United States — Maternity aid — Stonemeal as a fertilizer — Injunctions against strikes and boycotts in Massachusetts, 1906 — Industrial information — Industrial agreements — Trade union notes — Recent legal labor decisions — Trade union directory, Massachusetts, 1906.

No. 44. December, 1906. p. 425–520. A living wage — Divorces in Massachusetts, 1860–1904 — New England telephone and telegraph company. Wages, etc. — Child labor in Massachusetts, 1906 — State life insurance system — Recent court decisions relating to labor — Average retail prices in Massachusetts, October, 1906 — Directory of employers' associations in Massachusetts — Trade union notes — Industrial agreements — Industrial information — Recent increases in wages in the United States.

No. 45. January, 1907. 60 p. Income and inheritance taxes — Cotton manufacturing in Massachusetts, 1850 and 1905 — Railroad pensions in the United States and Canada — Convict labor in Massachusetts — President Roosevelt on labor matters, 1906 — Trade union notes — Recent court decisions relating to labor — Industrial agreements — Current comment on old-age pensions — Magazine articles on labor topics, 1906.

No. 46. February, 1907. p. 61–128. Unemployment in Massachusetts — Massachusetts state free employment offices — Insurance against unemployment in foreign countries — Metropolitan district — Statistics of population, Boston, 1905 — Labor legislation in the United States and Canada, 1906 — Industrial agreements — Industrial information.

No. 47. March, 1907. p. 129–196. Boston's taxpayers — Distributive cooperation in New England — Industrial education for shoe workers — Technical education, England and the United States — Females in gainful occupations, 1895, 1905 — Strikes and lockouts in Massachusetts, 1905–1906 — Massachusetts state free employment offices — Labor legislation in foreign countries — Trade union notes — Industrial agreements — Recent court decisions relating to labor — Industrial information.

No. 48. April, 1907. p. 197–272. Manufactures, Massachusetts and other states, 1900–1905 — The German workman. Résumé of report by Mr. Dawson — Business advertising — Postal savings banks — Massachusetts state free employment offices — Trade union notes — Industrial agreements — Recent court decisions relating to labor — Industrial information.

***No. 49. May, 1907.** p. 273–320. Manufactures, Massachusetts and other states, 1900–1905 — Immigrant aliens destined for Massachusetts, 1897–1906 — Average retail prices in Massachusetts, April, 1907 — Massachusetts state free employment offices — Strikes and lockouts in Massachusetts, quarter ending December 31, 1906 — Recent court decisions relating to labor — Industrial information.

No. 50. June, 1907. p. 321–368. Manufactures, Massachusetts and other states, 1850–1905 — Changes in rates of wages and hours of labor in Massachusetts, 1906 — Free employment offices, United States — Estimated population of Massachusetts cities, 1906–1910 — Trade unions in foreign countries — Strikes and lockouts in Massachusetts, quarter ending March 31, 1907 — Trade union notes — Industrial agreements — Recent court decisions relating to labor — Industrial information.

No. 51. July-August, 1907. 68 p. Place of birth of the inhabitants of Massachusetts and of Boston — Massachusetts forestry — Social statistics. Census of the deaf, 1905 — Wage agreements in Fall River cotton mills — Labor legislation in Massachusetts, 1907 — Free employment offices in foreign countries — Municipal pawnshops in France and Germany — Employees' mutual benefit associations in Massachusetts, 1906 — Movement of manufacturing establishments in Massachusetts, 1906 — Factory construction in Massachusetts, 1906 — Failures in Massachusetts, 1906 — Trade union notes — Industrial agreements — Recent court decisions relating to labor — Industrial information.

***No. 52. September, 1907.** p. 69–140. George Edwin McNeill. A memorial — Standard length of print cloth cuts — Massachusetts trade union directory, 1907.

No. 53. October, 1907. p. 141–164. Social statistics. Census of acute diseases, 1905 — Workmen's compensation acts in foreign countries.

No. 54. November, 1907. p. 165–200. Social statistics. Census of chronic diseases, 1905 — Shipbuilding in Massachusetts — Recent court decisions affecting labor.

No. 55. December, 1907. p. 201–270. Social statistics. Census of the maimed, lame, and deformed, 1905 — President Roosevelt on labor matters, 1907 — Retail prices in Massachusetts for articles of household consumption, October, 1907 — Need of industrial education in the textile industry — Recent foreign labor legislation — Recent court decisions affecting labor.

No. 56. January, 1908. 52 p. Conciliation in British trade disputes — Immigrant population of Massachusetts — Employers' associations — Co-operation, trade unions, and labor disputes in Germany, 1906 — Extracts from the constitution of the new state of Oklahoma — Recent court decisions affecting labor.

No. 57. February, 1908. p. 53–68. Unemployment situation in Massachusetts — Recent cases under the Canadian industrial disputes investigation act.

No. 58. March-April, 1908. p. 69–176. Labor legislation in the United States, 1907 — Labor legislation in Massachusetts, 1907 — Legal hours of labor in the United States — Comparative surveys of labor legislation.

***No. 59. May, 1908.** p. 177–228. State of employment in the organized industries in Massachusetts, April 1, 1908 — Recent court decisions affecting labor.

No. 60. June-July, 1908. p. 229–288. Labor legislation in Massachusetts, 1908 — Legislative action on bills relating to labor, 1908 — Reduction in wages in Fall River — Building trades department of the American federation of labor — Magazine articles on labor topics, 1907 — Amended Fall River wage agreement.

No. 61. September, 1908. p. 289–332. State of employment in the organized industries in Massachusetts, June 30, 1908 — Massachusetts trade union directory, 1908.

No. 62. January, 1909. 36 p. State of employment in the organized industries in Massachusetts, September 30, 1908 — Recent decisions of Massachusetts courts — Recent foreign labor legislation.

***No. 63. April, 1909.** p. 37–72. Carroll D. Wright. A memorial — State of employment in the organized industries in Massachusetts, December 31, 1908 — Immigrant aliens destined for Massachusetts, 1899–1908 — Employers' associations, 1909 — Labor legislation in the United States, 1908.

No. 64. May, 1909. p. 73–80. State of employment in the organized industries in Massachusetts, March 31, 1909.

***No. 65. July, 1909.** p. 81–104. Tuberculosis in the industries of Massachusetts.

No. 66. August, 1909. 8 p. State of employment in the organized industries in Massachusetts, June 30, 1909.

No. 67. September, 1909. 166 p. Labor laws of Massachusetts.

No. 68. October, 1909. 34 p. Directory of labor organizations in Massachusetts, 1909.

***No. 69. November, 1909.** 8 p. State of employment in the organized industries in Massachusetts, September 30, 1909.

No. 70. December, 1909. 168 p. Labor injunctions in Massachusetts.

***No. 71. February, 1910.** 8 p. State of employment in the organized industries in Massachusetts, December 31, 1909.

No. 72. May, 1910. 8 p. State of employment in the organized industries in Massachusetts, March 31, 1910.

***No. 73. June, 1910.** 59 p. Labor legislation in Massachusetts, 1910.

***No. 74. July, 1910.** 8 p. State of employment in the organized industries in Massachusetts, June 30, 1910.

***No. 75. August, 1910.** 8 p. Immigrant aliens destined for and emigrant aliens departed from Massachusetts, 1909.

***No. 76. September, 1910.** 42 p. Directory of labor organizations in Massachusetts, 1910.

***No. 77. October, 1910.** 8 p. State of employment in the organized industries in Massachusetts, September 30, 1910.

No. 78. December, 1910. 42 p. Litigation arising from labor disputes and related causes in the Massachusetts courts.

***No. 79. February, 1911.** 8 p. State of employment in the organized industries in Massachusetts, December 31, 1910.

***No. 80. April, 1911.** 8 p. State of employment in the organized industries in Massachusetts, March 31, 1911.

No. 81. May, 1911. 8 p. Immigrant aliens destined for and emigrant aliens departed from Massachusetts, 1910.

No. 82. July, 1911. 8 p. State of employment in the organized industries in Massachusetts, June 30, 1911.

No. 83. September, 1911. 39 p. Directory of labor organizations in Massachusetts, 1911.

No. 84. October, 1911. 128 p. Labor legislation in Massachusetts, 1910 and 1911.

No. 85. November, 1911. 8 p. State of employment in the organized industries in Massachusetts, September 30, 1911.

No. 86. December 1, 1911. 112 p. Changes in rates of wages and hours of labor in Massachusetts, 1910.

No. 87. December 15, 1911. 56 p. Labor organizations in Massachusetts, 1910.

No. 88. January, 1912. 46 p. Homesteads for workingmen. Bibliography.

No. 89. February, 1912. 8 p. State of employment in the organized industries in Massachusetts, December 30, 1911.

No. 90. March, 1912. 8 p. Immigrant aliens destined for and emigrant aliens departed from Massachusetts, 1911.

No. 91. April, 1912. 80 p. Time-rates of wages and hours of labor in certain occupations in Massachusetts, October 1, 1911.

No. 92. June, 1912. 108 p. Labor legislation in Massachusetts, 1912.

No. 93. August, 1912. 39 p. Directory of labor organizations in Massachusetts, 1912.

No. 94. March 1, 1913. 57 p. Directory of labor organizations in Massachusetts, 1913.

No. 95. October 1, 1913. 325 p. Labor legislation in Massachusetts, 1913, with text of legislation for 1912, and cumulative index of the labor laws in effect December 31, 1913.

No. 96. October 10, 1913. 127 p. Labor organizations in Massachusetts, 1912.

No. 97. February 13, 1914. 72 p. Union scale of wages and hours of labor in Massachusetts, 1913.

No. 98. March 9, 1914. 55 p. Directory of labor organizations in Massachusetts, 1914.

No. 99. April 3, 1914. 12 p. Immigrant aliens destined for and emigrant aliens departed from Massachusetts, 1913.

No. 100. June 8, 1914. 150 p. Labor bibliography, 1913.

No. 101. June 12, 1914. 183 p. Industrial home work in Massachusetts. Bibliography.

***No. 102. July 21, 1914.** 63 p. Action affecting labor in Massachusetts during the legislative session of 1914.

***No. 103. August 3, 1914.** 157 p. Wages and hours of labor in the paper and wood pulp industry in Massachusetts, October, 1912.

No. 104. February 1, 1915. 336 p. Handbook of the labor laws of Massachusetts. Laws in effect at the close of the legislative session of 1914.

No. 105. March 1, 1915. 64 p. Labor organizations in Massachusetts, 1913.

January 4, 1911. A special report made to the legislature on the cost of retirement systems for state and county employees in Massachusetts. 101 p.

REPORTS ON UNEMPLOYMENT OF ORGANIZED WAGE-EARNERS.

The publication of the quarterly report on unemployment of organized wage-earners began in the labor bulletin for May, 1908 and was continued in the bulletin through February, 1912. Since that time a separate report has been issued quarterly. In all, twenty-eight quarterly reports on this subject have been issued. The last, for the close of the fourth quarter in 1914, December 31, 1914, having completed the series for seven consecutive years.

REPORTS ON THE STATISTICS OF MANUFACTURES.

The publication of the annual report on the statistics of manufactures began in 1886. Each report issued prior to 1907 contained comparisons for identical establishments, between two or more years, as to capital devoted to production, stock and materials used, goods made, persons employed, wages paid, and time in operation. Beginning with 1907 the comparisons for identical establishments were omitted, and all returns made to the bureau were included in the tabulations.

(1) **1886.** }
(2) **1887.** } xix, 119 p.
(3) **1888.** lxxxii, 147 p.
(4) **1889.** xxxi, 275 p.
(5) **1890.** xxv, 405 p.
(6) **1891.** xv, 326 p.
(7) **1892.** xxv, 475 p.
(8) **1893.** xxxix, 401 p.
(9) **1894.** xv, 299 p.
(10) **1895.** xxxiii, 293 p.
(11) **1896.** xiii, 240 p.
(12) **1897.** xv, 249 p.
(13) **1898.** xxvii, 311 p.
(14) **1899.** xi, 168 p.
(15) **1900.** x, 157 p.
(16) **1901.** xi, 223 p.
(17) **1902.** iii, 122 p.
(18) **1903.** iv, 77 (1) p.
(19) **1904.** Pt. 5 of annual report on the statistics of labor, 1905. p. 303–373 (2) p.
(20) **1905.** Pt. 4 of annual report on the statistics of labor, 1906. p. 245–327.
(21) **1906.** Pt. 4 of annual report on the statistics of labor, 1907. p. 315–411.
(22) **1907.** xxxv, 82 p.
(23) **1908.** xxxvi, 127 p.
(24) **1909.** xxxi, 111 p.
(25) **1910.** xxviii, 141 p.
(26) **1911.** xxvi, 137 p.
(27) **1912.** xxx, 126 p.
(28) **1913.** xxxviii, 127 p.

Two special reports were issued by the Manufactures' Division as follows:

August 1, 1913. Directory of Massachusetts manufactures, 1913. (4), 227 p.
August 1, 1914. Report on the power laundries in Massachusetts, 1913. 44 p.

INDUSTRIAL INFORMATION CIRCULARS.

Twenty-five circulars were published from May 15, 1903 to May 17, 1906. The publication was then continued in the labor bulletin from July, 1906 to July–August, 1907. Each circular contains information

for the manufacturer, merchant, and exporter, based on daily reports of the bureau of manufactures of the national department of commerce and labor.

*No. 1. May 15, 1903. 2 p.
*No. 2. May 16, 1903. 2 p.
*No. 3. May 18, 1903. 2 p.
*No. 4. October 10, 1903. 2 p.
*No. 5. November 12, 1903. 3 p.
*No. 6. March 10, 1904. 4 p.
*No. 7. March 14, 1904. 2 p.
*No. 8. March 17, 1904. 4 p.
*No. 9. March 21, 1904. 4 p.
*No. 10. March 24, 1904. 4 p.
*No. 11. March 29, 1904. 4 p.
*No. 12. April 9, 1904. 4 p.
*No. 13. April 16, 1904. 4 p.
*No. 14. May 3, 1904. 4 p.
*No. 15. May 10, 1904. 4 p.
*No. 16. May 19, 1904. 4 p.
*No. 17. September 8, 1904. 4 p.
*No. 18. June 29, 1905. 4 p.
*No. 19. July 6, 1905. 4 p.
*No. 20. July 25, 1905. 4 p.
*No. 21. August 3, 1905. 4 p.
*No. 22. August 19, 1905. 4 p.
*No. 23. March 5, 1906. 2 p.
*No. 24. March 26, 1906. 3 p.
*No. 25. May 17, 1906. 4 p.

REPORTS ON THE FREE EMPLOYMENT OFFICES.

The publication of the annual report of the state free employment offices began in 1907. Each report contains statistical tables and descriptive matter relative to the work of the offices maintained under the jurisdiction of this bureau in Boston, Springfield, Fall River, and Worcester.

*(1) **1907.** 55 p.
(2) **1908.** 20 p.
(3) **1909.** 19 p.
*(4) **1910.** 21 p.
(5) **1911.** 21 p.
(6) **1912.** 23 p.
*(7) **1913.** 27 p.
(8) **1914.** 31 p.

FREE EMPLOYMENT OFFICES GAZETTE.

The publication of the free employment offices gazette began in December, 1906. Each gazette contains descriptive matter relative to the work of the Boston office previous to the publication of the first annual report of the state free employment offices.

Vol. 1. No. 1. December 28, 1906. 7 p.
No. 2. January 16, 1907. 5 p.
No. 3. February 7, 1907. 8 p.
No. 4. March 18, 1907. 10 p.
No. 5. April 22, 1907. 8 p.
*No. 6. May 21, 1907. 8 p.
*No. 7. May 31, 1907. 3 p.

REPORTS ON THE STATISTICS OF MUNICIPAL FINANCES.

The publication of the annual report on the statistics of municipal finances began in 1906. Each report contains statistics pertaining to the cost of municipal government in Massachusetts: revenue, maintenance, interest payments, and municipal indebtedness.

(1) **1906.** lii, 299 p.
(2) **1907.** lii, 323 p.
(3) **1908.** li, 223 p.
(4) **1909.** xlvi, 302 p.
(5) **1910.** xxx, 263 p.
(6) **1911.** xxvii, 257 p.
(7) **1912.** xxvii, 268 p.

MUNICIPAL BULLETINS.

The publication of the municipal bulletin began in January, 1910.

No. 1. January, 1910. 64 p. A uniform classification of municipal receipts and payments prescribed for the cities and towns of Massachusetts as a basis for a standard system of accounts and reports.

No. 2. July, 1910. 6 p. Recent legislation relative to town finances and municipal accounts.

No. 3. January, 1911. 11 p. Issue and certification of town notes.

No. 4. March, 1911. 34 p. Outstanding indebtedness of certain cities and towns of Massachusetts against which no sinking funds are being accumulated or for the extinguishment of which no annual payments of principal are being made.

***No. 5. July, 1913.** 44 p. Laws relating to municipal finances, including the municipal indebtedness act of 1913, the acts requiring the certification of town and district notes, providing for the auditing of accounts and the installation of accounting systems by the bureau of statistics, making of annual returns of financial transactions, etc.

No. 6. July, 1914. 46 p. Supersedes no. 5, and includes the municipal indebtedness act of 1913 (with amendments of 1914), the acts requiring the certification of town and district notes, providing for the auditing of accounts and the installation of accounting systems by the bureau of statistics, making of annual returns of financial transactions, etc.

Two special reports were issued by the Municipal Division as follows:

April 15, 1912. Report of a special investigation relative to the indebtedness of the cities and towns of the commonwealth. 286 p.

March 5, 1913. Report of a special investigation relative to the sinking funds and serial loans of the cities and towns of the commonwealth. 25 p.

CENSUS REPORTS. — MASSACHUSETTS.

***1875.** 3 vols. and compendium.

Vol. 1. Population and social statistics. lvii, 809 p.

Vol. 2. Manufactures and occupations. lvi, 935 p.

Vol. 3. Agricultural products and property. xxxiii, 790 p.

A fourth volume of the results of the census of 1875 was published as the seventh annual report of the bureau of statistics of labor (1876. xvi, 258 p.), and consisted of tabulations derived from what was known as the individual schedule relating to the condition of wage-earners and salaried persons.

Compendium of the census of Massachusetts: 1875. vii, 321 p.

Census system of Massachusetts for 1875. xix, 165 p.

The volume contains the industrial statistics schedule and copies of all blanks used in taking the decennial census and industrial statistics of 1875, together with a sketch of the four preceding censuses taken under the authority of the state. The volume was prepared especially for the centennial exhibition at Philadelphia.

***1880.** xxiv, 698 p.

Returns of the tenth census of the United States, compiled by Carroll D. Wright.

*1885. 3 vols. in 4 pts.

Vol. 1. Pts. 1 and 2. Population and social statistics. Pt. 1. xci, 685 p. Pt. 2. cxxxi, 1331 p.

Vol. 2. Manufactures, fisheries, and commerce. ccxxxix, 1543 p.

Vol. 3. Agricultural products and property. lxii, 934 p.

Vol. 1 (p. 61–80) gives censuses of population: 1765–1885, by towns, showing the total population at each census (colonial, United States or state) and (p. 81–100) notes on the dates of incorporation, changes in name, area, boundaries, population, etc., for counties, cities and towns.

*1895. 7 vols.

Vol. 1. Population and social statistics. xiii, 865 p.

Vol. 2. Population and social statistics. xv, 810 p.

Vol. 3. Population and social statistics. xix, 597 p.

Vol. 4. Population and social statistics. xv, 1236 p.

Vol. 5. Manufactures. xv, 641 p.

Vol. 6. Fisheries, commerce, and agriculture. xxvii, 883 p.

Vol. 7. Social statistics and general summaries. xxix, 287 p.

In vol. 1 (p. 129–216) is given a presentation of the censuses of population, 1765–1895, arranged by counties and cities and towns with dates of incorporation, changes in name, area, boundaries, population, etc., and (p. 220–223) a tabular presentation of the growth of the city of Boston from 1638 to 1895 giving figures for Boston proper, each of the annexations, and Boston with annexations.

Of the first four volumes of the reports of this census each entitled "Population and social statistics," vol. 1 gives general statistics of population, families and dwellings; vol. 2, nativity, race, color, conjugal condition and age statistics; vol. 3, parent nativity, schools and school property; and vol. 4, statistics of occupations. Vol. 7 entitled "Social statistics and general summaries" gives in pt. 1 a tabular presentation of employment and unemployment statistics and in pt. 2 statistics of scholars and students and of illiteracy, and a recapitulation of statistics for all occupations supplementary to the presentation of occupation statistics given in vol. 4.

Index to occupations for use in census work and statistical tabulations. 300 p.

*1905. 4 vols.

Vol. 1. Population and social statistics. cxviii, 981 p.

Vol. 2. Occupations and defective social and physical condition. xix, 393 p.

Vol. 3. Manufactures and trade. lxviii, 294 p.

Vol. 4. Agriculture, fisheries, and commerce. xxvi, 598 p.

In vol. 1 (p. 803–902) is given the presentation of censuses of population, 1765–1905, with dates of incorporation, changes in names, area, boundaries, population, etc.

***January 6, 1911.** Population of Massachusetts as determined by the thirteenth census of the United States, 1910. 56 p.

CHARTS

ILLUSTRATIVE BY SELECTED SUBJECTS OF THE WORK OF THE BUREAU OF STATISTICS

NOTE.

Much of the information presented in the bulletins and annual reports of the Bureau of Statistics is not of a character which permits of presentation in chart form; such, for example, are the annual compilations of labor legislation; the descriptive reports relative to wages and hours of labor; the annual directory of labor organizations, and various other reports and bulletins relating to industrial matters and municipal finances, which afford no satisfactory basis for comparison with corresponding information for a period of years. Consequently, the charts presented on the following pages are not adequately descriptive of the work of the Bureau, but merely furnish suggestive illustrations of particular phases to which attention may most readily be called by graphic methods.

In connection with the charts herewith presented, descriptive matter in the form of text has been added, for the two-fold purpose of tracing the development of the several branches of the Bureau's work and of calling attention to the more significant facts brought out by the charts themselves.

LIST OF CHARTS.

POPULATION: —

No. Subject.

1. Total Population.
2. Urban Population.
3. Nativity.
4. Sex.
5. Age and Sex.
6. Illiteracy.

INDUSTRIAL CONDITIONS: —

7. Manufactures — Massachusetts Leadership in.
8. Value of Manufactured Products.
9. Value Added by Manufacture.
10. Unemployment in Manufacturing Industries.
11. Wages in Manufacturing Industries.
12. Character of Ownership of Manufacturing Establishments.
13. Changes in Rates of Wages and Hours of Labor, 1907–1910.
14. Changes in Rates of Wages and Hours of Labor, 1907–1910: Method of Securing Increases.
15. Changes in Rates of Wages and Hours of Labor, 1907–1910: Increases at Request of Employees.
16. Unemployment in the Organized Industries.
17. Strikes and Lockouts in Massachusetts, 1908–1912.
18. Strikes and Lockouts in Massachusetts, 1908–1912: Causes, Results, etc.
19. Number of Local Labor Organizations in Massachusetts, 1908–1913.
20. Membership of Local Labor Organizations in Massachusetts, 1908–1913.
21. Free Employment Offices: Organization and Administration.
22. Free Employment Offices: Volume of Business, 1907–1914 (Table).
23. Boston Free Employment Office: Volume of Business Done, 1907–1914.

MUNICIPAL FINANCES: —

24. Municipal Expenditures.
25. Debt Studies.
26. Certification of Town Notes.

CHART 1.

The Federal Census, instituted in 1790, has been taken decennially since that time. Although the Commonwealth had taken various state censuses independently of the Federal Government prior to 1865, it was in that year that the present series of decennial state censuses was begun under a constitutional provision adopted in 1857. The chart presents, for the first 60 years, figures taken at intervals of ten years, but since 1850 the growth of the total population is shown by five-year periods.

Though of comparatively limited area, Massachusetts has kept steady pace in population with the rapid growth of the nation, and ranks to-day sixth in the list of states in this respect.

The period showing the smallest increase occurs between 1860 and 1865 where the temporary check is to be ascribed to the War of the Rebellion. The greatest increase appears in the last period presented, that included in the years between 1905 and 1910.

CHART 1.

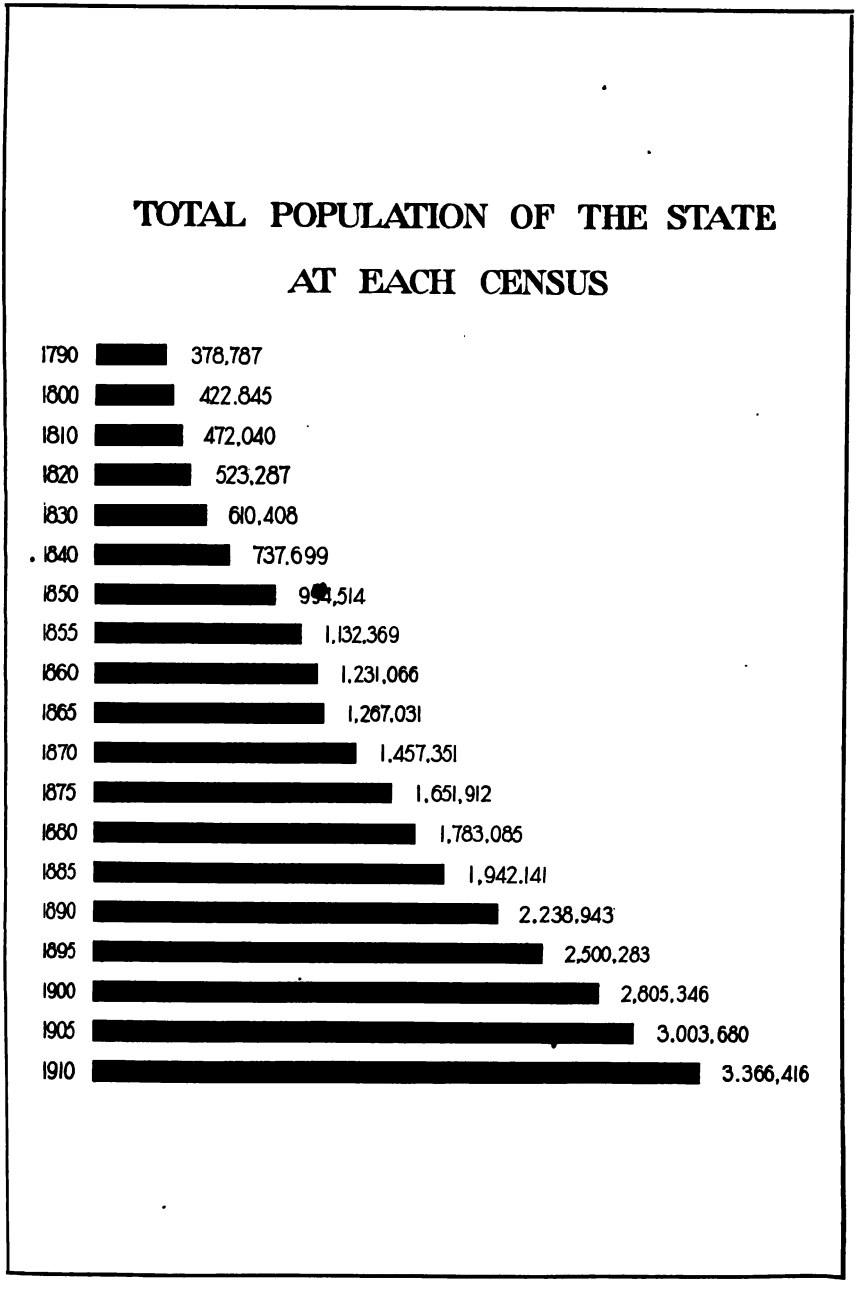

TOTAL POPULATION OF THE STATE
AT EACH CENSUS
1790 378,787
1800 422,845
1810 472,040
1820 523,287
1830 610,408
1840 737,699
1850 994,514
1855 1,132,369
1860 1,231,066
1865 1,267,031
1870 1,457,351
1875 1,651,912
1880 1,783,085
1885 1,942,141
1890 2,238,943
1895 2,500,283
1900 2,805,346
1905 3,003,680
1910 3,366,416

CHART 2.

The steady, rapid growth of the ratio of urban to total population included in the 120-year period covered by census figures may be attributed to three distinctly different causes: First, the movement of an appreciable percentage of the rural population toward the cities and the larger towns, due to a great extent to the opinion inevitably prevalent that there exist in such communities more opportunities and greater advantages; secondly, the congregation in the large manufacturing and commercial centres of the relatively great numbers of immigrants pouring into Massachusetts annually; and thirdly, the consistent growth and consequent inclusion in the number of urban localities, of towns which had previously been enumerated among the rural communities.

Care must be taken to note, therefore, that the chart presenting these data reflects not only the general movement of the population toward the cities and the larger towns, but also the increasing development of rural into urban communities.

CHART 2.

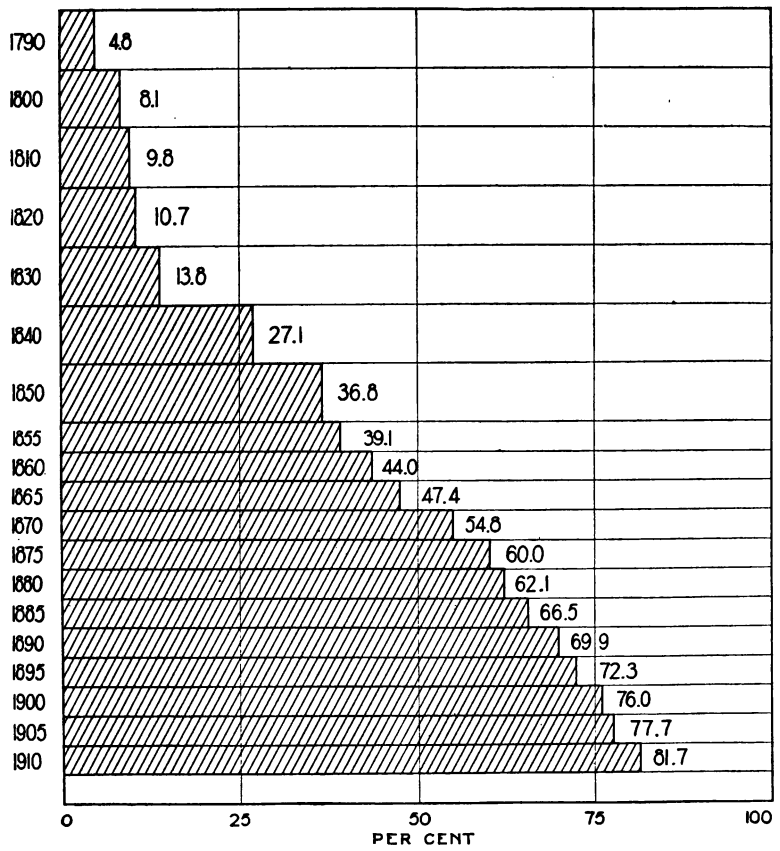

URBAN POPULATION
PROPORTION OF URBAN TO TOTAL POPULATION
AT EACH CENSUS
Urban Population includes Localities of 8000 or over
1790
1800
1810
1820
1830
1840
1850
1855
1860
1865
1870
1875
1880
1885
1890
1895
1900
1905
1910
4.8
8.1
9.8
10.7
13.8
27.1
36.8
39.1
44.0
47.4
54.8
60.0
62.1
66.5
69 9
72.3
76.0
77.7
81.7
0
25
50
75
100
PER CENT

CHART 3.

The continuous downward trend of the curve demonstrating the proportion of persons of native birth is due obviously to the influx into the United States of approximately one million aliens annually. This fact, self-evidently, influences also the curve representing the proportion of persons of native parentage, which, in federal censuses, includes only those both of whose parents were born in the United States. But an additional and very appreciable influence on the curve is to be noted in the great fecundity of the aliens, and the latter reason is responsible for the sharper descent of the native parentage curve.

In the decade ending 1880 the proportion of persons of native birth shows a decrease almost imperceptible from the figures obtained in 1870, the cause for this being attributable to the great panic of 1873, and the concomitant and subsequent business depression in the United States which led to a decrease in immigration during that period. With this in view a most interesting point is to be found in the census figures taken *one generation later*, in 1910, when the proportion of persons of native parentage, though still decreasing from the figure presented for 1900, shows a decrease perceptibly less than that presented for any other decade.

CHART 3.

NATIVITY

PROPORTION OF PERSONS OF NATIVE BIRTH AND NATIVE PARENTAGE AT EACH CENSUS

Since 1850

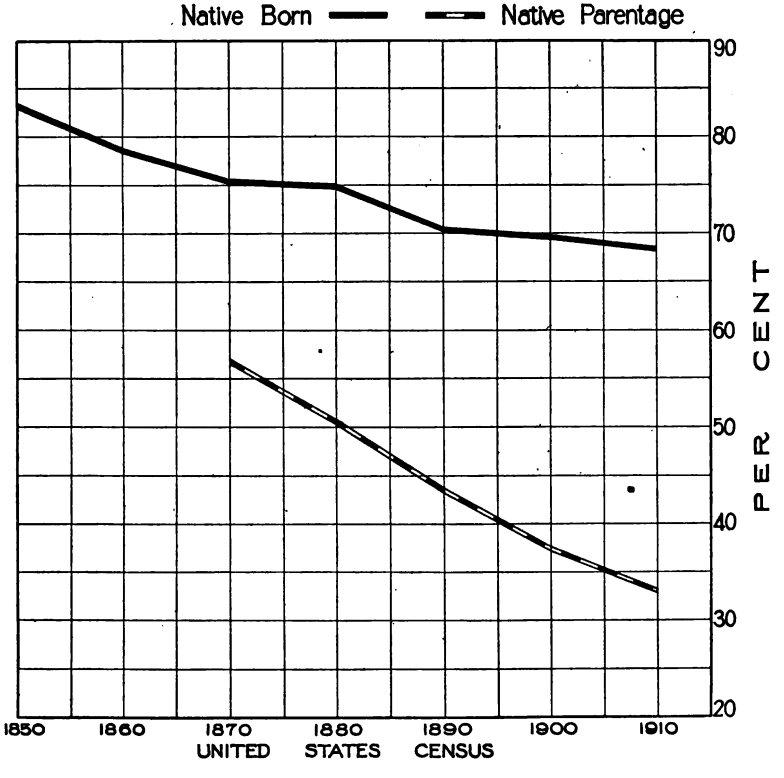


CHART 4.

At no period since the first census was taken in 1790 has the ratio of females to the total population fallen below 50 per cent either in the State or in the city of Boston. The marked irregularities occurring in both the curves presented are readily explicable in most instances. In 1790 the strikingly high percentage of females in the city of Boston, and, to a smaller extent in the State, results undoubtedly from the War of the Revolution; a similar reason holds true in 1865 at the close of the War of the Rebellion. In both these cases a comparison of the city and the state would appear to demonstrate beyond reasonable doubt that more men per thousand are recruited in time of war from the city of Boston than from the rest of the state as a whole. The sharp increase of females in the decade ending 1820 is due probably to emigration of the men to the new-opening West, of which the decline of Massachusetts fisheries and the ship-building industry, resulting from the Embargo and non-intercourse Acts and the three-year war with England in this period, were the most important causes.

Since 1885 there has been almost a steady decrease in the proportion of females, which may be ascribed to the preponderance of male immigration and to the growth in the manufacturing industries which demand the employment of males. It is highly improbable that during the next generation at least, despite the present apparent trend of the curve, the proportion of females will decrease more than four tenths of one per cent, as at no time in its history has the male population of the Commonwealth been more than 49.4 per cent of the total.

CHART 4.

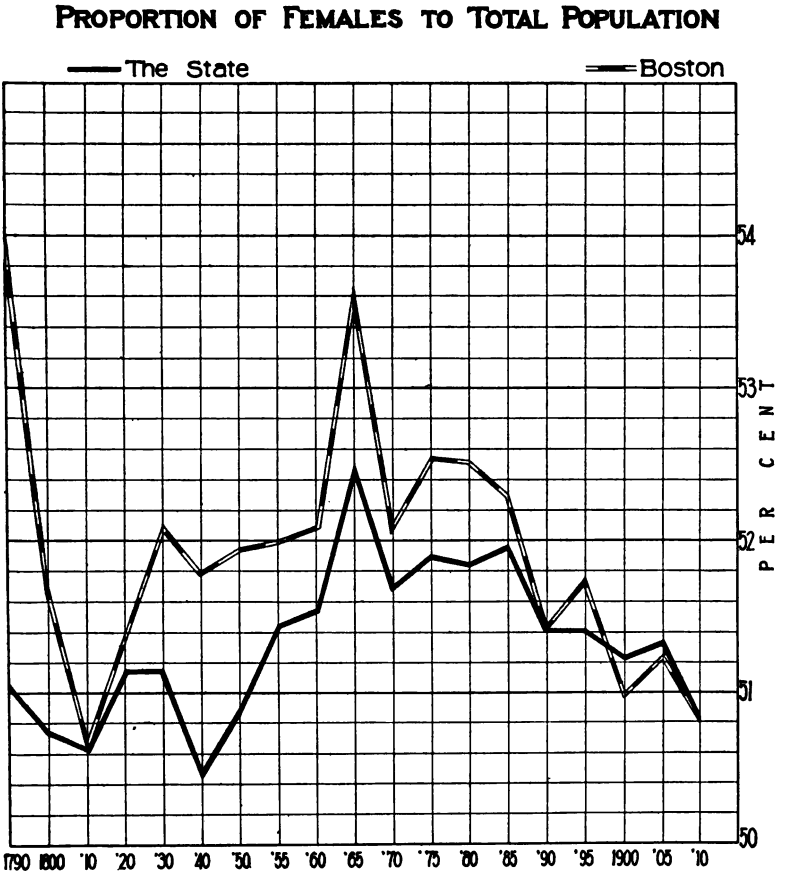

SEX
PROPORTION OF FEMALES TO TOTAL POPULATION
The State
Boston
54
53
52
51
50
PER CENT
1790 1800 '10 '20 '30 '40 '50 '55 '60 '65 '70 '75 '80 '85 '90 '95 1900 '05 '10

CHART 5.

This chart, presenting the results of a study of the age and sex of the inhabitants of the Commonwealth, is a cross-section view of the population of the state based on the Massachusetts Decennial Census of 1905. In the case of males, those under 10 years of age comprise 9.1 per cent of the total population of the state, a higher percentage than that appearing in any other decade. A study of the females, on the other hand, discloses the fact that the decade including those between 20 and 30 years presents the greatest proportion of females, amounting to 10 per cent of the total population. Infant mortality, undoubtedly, is a prominent factor in keeping down the ratio of males and females under 10 years of age, whereas ordinary natural causes are responsible for the gradual decrease in both sexes after the 30-year mark has been reached. The number of females slightly exceeds that of the males, a fact which becomes more and more evident after the 50-year mark has been attained and which emphasizes the greater longevity of the females. To what extent these ratios may be affected in another decade, when the results of the Civil War, which undoubtedly affect the present proportions of those over 70 years of age, will be no longer felt, will be worthy of note.

CHART 5.

PROPORTION OF TOTAL POPULATION BY AGE AND SEX

From the Massachusetts Decennial Census of 1905—Total Population 3,003,680.

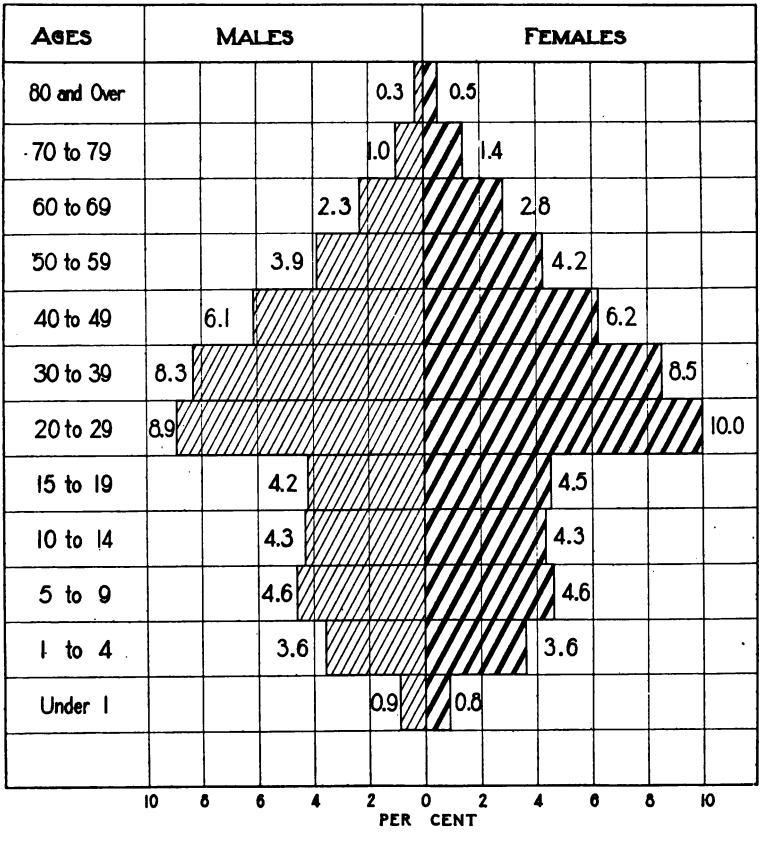


CHART 6.

In the Massachusetts Decennial Census the term "Illiterates" includes only those who can neither read nor write in any language. Since 1885 the proportion of illiterates has shown a decided decrease, and in 1905 there was not only relatively, but absolutely, a smaller number included under this heading than at the preceding census. This absolute decrease can be credited only to the educational facilities offered by the Commonwealth, as it is safe to assume that Massachusetts is not at the present time receiving aliens of any higher standard of literacy at immigration than it has in the past 20 years. The system of evening schools and public and private civic centers has unquestionably done much to ameliorate the educational condition of the aliens, and the natural aptitude and eagerness, or at least willingness, of the greater part of these people to become assimilated, are reflected in the statistics herewith presented. The number of native illiterates comprises forty-one one-hundredths of one per cent of the total population of the State and these are for the most part feeble-minded or otherwise defective.

CHART 6.

ILLITERACY

PROPORTION OF ILLITERATES AT EACH CENSUS 1875-1905

From the Massachusetts Decennial Censuses.

Percentages of Population of 10 years of age and over

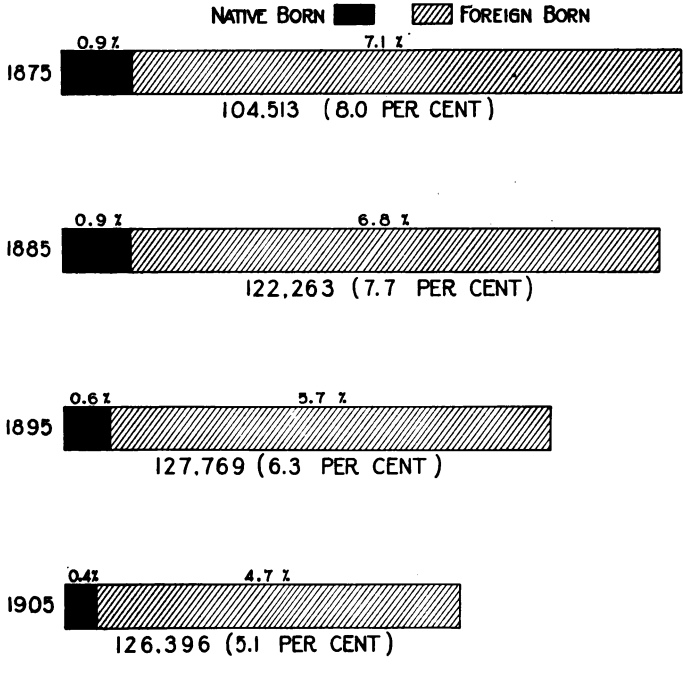


CHART 7.

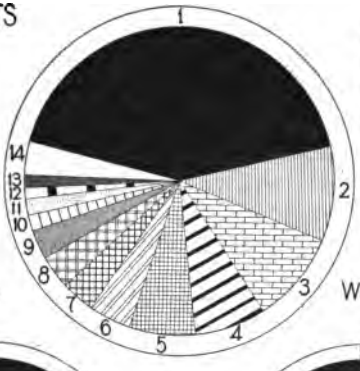
In her three most important industries, Massachusetts leads the Union. The United States shows an annual production of boots and shoes greater than that of any other nation in the world, and this Commonwealth is credited with almost half of the total production, — in other words, its yearly output almost equals that of the other 47 states combined. In cotton goods Massachusetts has always ranked highest, her present production being nearly one-third of the nation's gross output, and equals that of her two nearest competitors (North and South Carolina) combined. If the contributions of European looms should be cut off for any length of time, the country's control of two-thirds of the cotton supply of the world suggests possibilities of expansion on a far more extensive scale than has hitherto been conceived, and the present labor and manufacturing conditions in Massachusetts augur well for her future in this direction should events so shape themselves. In the other great textile industry, the production of woolen goods, Massachusetts manufactures almost one-third of the total product of the country, and, despite a temporary contraction, due to the sentiment prevalent among the manufacturers regarding tariff legislation, Massachusetts will undoubtedly retain its leadership in this industry.

CHART 7.

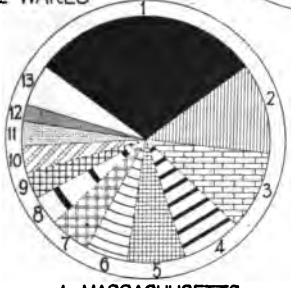
MASSACHUSETTS LEADERSHIP
IN BOOTS & SHOES, AND THE TEXTILES
PROPORTIONATE DISTRIBUTION BY STATES OF ANNUAL PRODUCTION OF BOOTS AND SHOES COTTON GOODS, AND WOOLEN & WORSTED GOODS

BOOTS & SHOES

1 MASSACHUSETTS
2 NEW YORK
3 MISSOURI
4 NEW HAMPSHIRE
5 OHIO
6 PENNSYLVANIA
7 ILLINOIS
8 MAINE
9 WISCONSIN
10 NEW JERSEY
11 MINNESOTA
12 VIRGINIA
13 MICHIGAN
14 ALL OTHER STATES

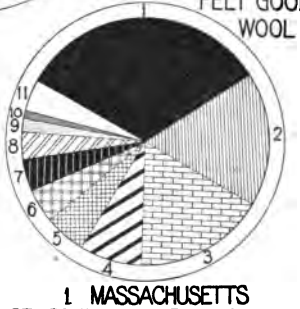


COTTON GOODS, INCLUDING COTTON SMALL WARES



1 MASSACHUSETTS
2 NORTH CAROLINA
3 SOUTH CAROLINA
4 RHODE ISLAND
5 GEORGIA
6 PENNSYLVANIA
7 CONNECTICUT
8 NEW HAMPSHIRE
9 ALABAMA
10 MAINE
11 NEW YORK
12 NEW JERSEY
13 ALL OTHER STATES

WOOLEN & WORSTED GOODS, INCLUDING FELT GOODS & WOOL HATS



1 MASSACHUSETTS
2 PENNSYLVANIA
3 RHODE ISLAND
4 NEW JERSEY
5 NEW YORK
6 CONNECTICUT
7 MAINE
8 NEW HAMPSHIRE
9 OHIO
10 VIRGINIA
11 ALL OTHER STATES

CHART 8.

In both studies here presented the feature first attracting attention is found in the phenomenal increase in the values of boot and shoe and textile manufactures during the decade ending 1909. In the boot and shoe industry the tendency apparently points to an equal increase for the period ending 1919, if the figures collected for 1913 are a fair indication of the growth during each of the next six years. The comparatively small increase in the values of the products in the textile industries in 1913, on the other hand, as compared with the figures presented for 1909, is due to the temporary check in the manufacture of woolen and worsted goods caused by the uncertainty of the manufacturers in this industry regarding the effects of legislation. With this uncertainty removed and the ordinary industrial activity in the industry resumed, a decided increase in the amount to be presented in 1919, the end of the present decade, is to be fairly expected. The check thus noted, it may be stated, is to no extent due to the movement of any of the cotton manufactories to other states.

CHART 8.

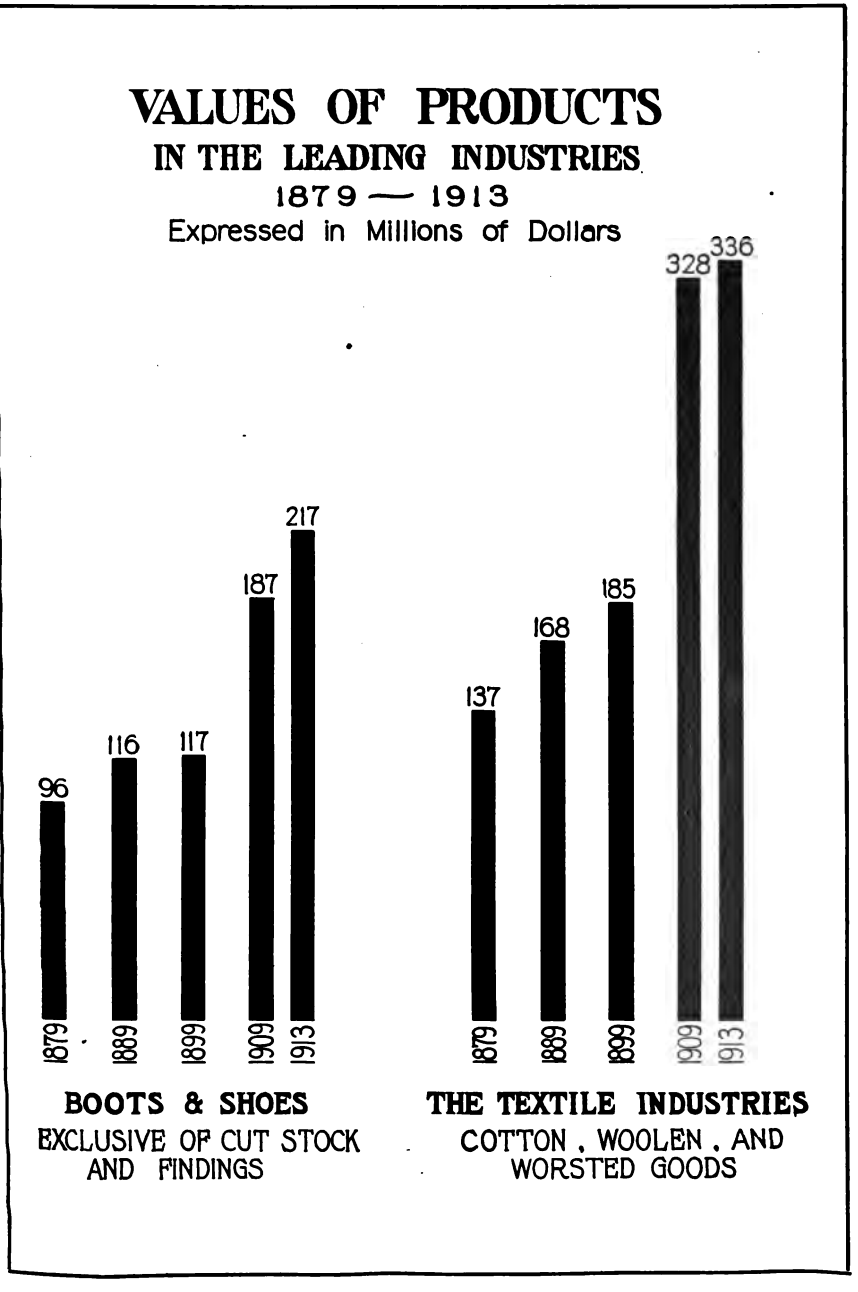

VALUES OF PRODUCTS
IN THE LEADING INDUSTRIES
1879 — 1913
Expressed in Millions of Dollars
96
116
117
187
217
1879
1889
1899
1909
1913
BOOTS & SHOES
EXCLUSIVE OF CUT STOCK
AND FINDINGS
137
168
185
328
336
1879
1889
1899
1909
1913
THE TEXTILE INDUSTRIES
COTTON, WOOLEN, AND
WORSTED GOODS

CHART 9.

The six leading industries of the state are presented here in the order of the value of their products, based on the figures returned for the year 1913. The value added by manufacture, which embraces wage cost (including the cost of marketing), supervision cost, and factory cost, obviously represents the gain in actual wealth produced by the transformation of the raw material into the finished product. In the case of electrical machinery and supplies, the value added by manufacture forms 54 per cent of the total value of the product, whereas in the remaining five industries the value of the materials used forms the greater part of the ultimate value. The reason for this lies in the fact that in the latter five industries the raw materials are relatively far more important factors than in the electrical machinery industry. The table subjoined gives the percentage in each case of the value added by manufacture:

Electrical Machinery and Supplies,	54
Boots and Shoes,	40
Cotton Goods,	39
Woolen and Worsted Goods,	39
Paper and Wood Pulp,	38
Leather,	24

CHART 9.

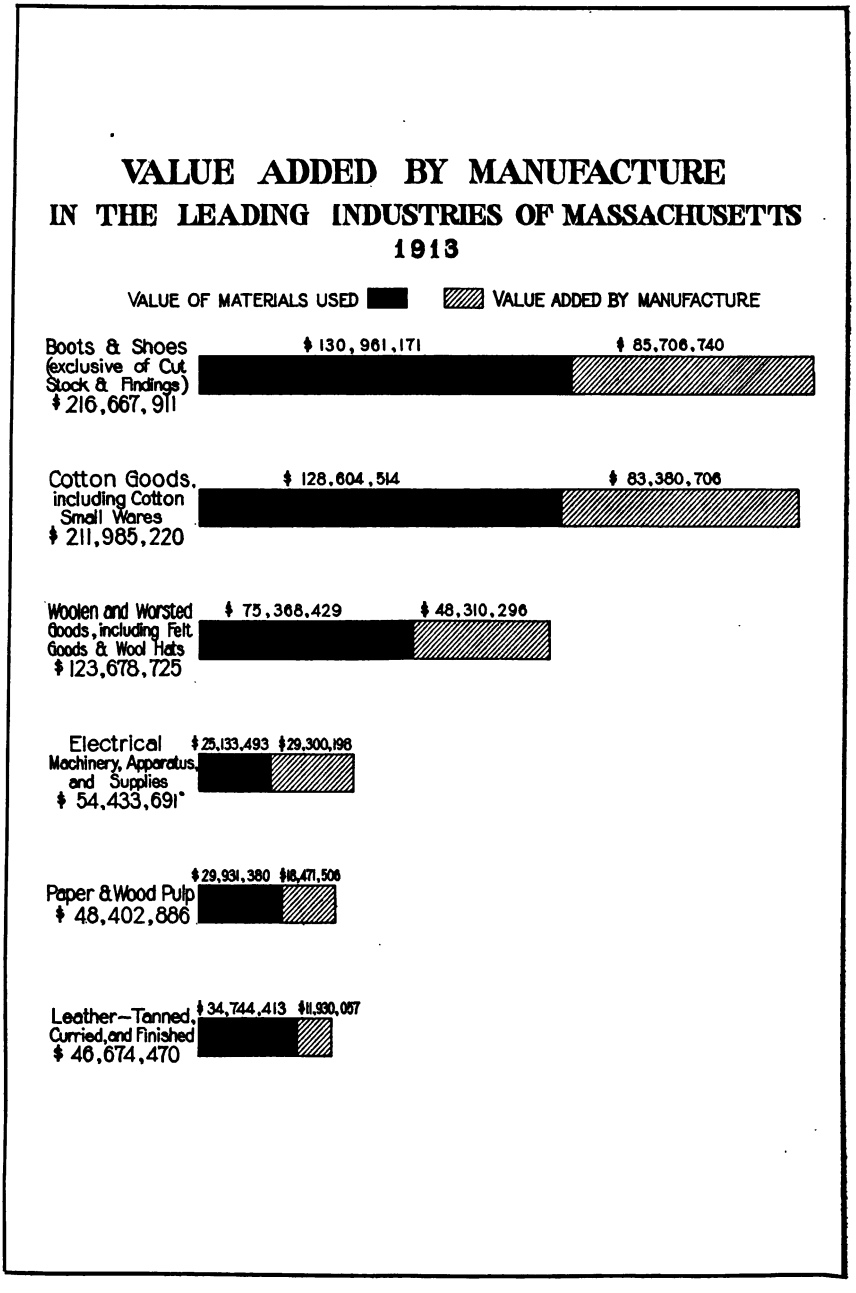

VALUE ADDED BY MANUFACTURE
IN THE LEADING INDUSTRIES OF MASSACHUSETTS
1913
VALUE OF MATERIALS USED
VALUE ADDED BY MANUFACTURE
Boots & Shoes (exclusive of Cut Stock & Findings) $216,667,911
$130,961,171
$85,706,740
Cotton Goods, including Cotton Small Wares $211,985,220
$128,604,514
$83,380,706
Woolen and Worsted Goods, including Felt Goods & Wool Hats $123,678,725
$75,368,429
$48,310,296
Electrical Machinery, Apparatus, and Supplies $54,433,691
$25,133,493
$29,300,198
Paper & Wood Pulp $48,402,886
$29,931,380
$18,471,506
Leather—Tanned, Curried, and Finished $46,674,470
$34,744,413
$11,930,057

CHART 10.

In the preparation of this chart the month of each year showing the greatest number of persons employed is utilized as the base, and obviously the month thus used in any year is represented by a curve touching 0 on the scale. The bar at 0, then, denotes the maximum of employment, and the curves are charted monthly to show deviations from this maximum. With the exception of the period subsequent to the national depression during the fall of 1907 and the year 1908, the first prominent tendency of the curve appears in the regular rise of unemployment toward the middle of the year, and its equally regular fall in the autumn and during the holiday season. In addition, however, behind the curve which appears on the chart lies the unplotted curve which demonstrates the gradual, but apparently fairly steady, annual decrease of the highest point in the deviation from the maximum. It is to be noted, also, that this proves an increase in the actual number of persons employed only to the extent that the maximum employment at the base line 0 is a constant.

CHART 10.

UNEMPLOYMENT
IN MANUFACTURING INDUSTRIES
DEVIATION FROM THE MAXIMUM
JANUARY 1907 - DECEMBER 1913

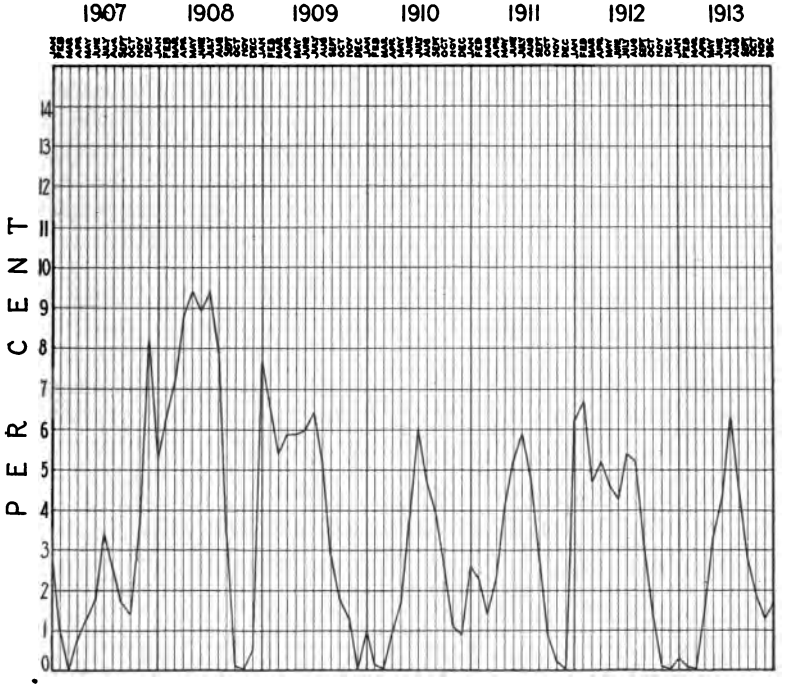


CHART 11.

In the chart representing the wages paid in the boot and shoe industry the wage curve for men places the mode in the high wage class from $18 to $20 per week, while the median falls in the wage class $15 to $16, and the mean in the class $12 to $13 per week. The high earnings embrace, generally, larger and larger proportions of male employees until the maximum, is reached in the $18 to $20 per week class. The wage curve for females places the mode in the high wage class from $9 to $10 per week, and every wage class enrolls an increasing per cent of workers up to that point. The class $12 to $13 per week includes a comparatively large proportion of the female operatives, and from that point each succeeding wage class is represented by a smaller number. For males and females under 18 years, the most frequently recurring wage is from $6 to $7 per week, and the curve representing this class is very symmetrical.

In the chart representing textile wages the highest per cent of the male employees is in the class $8 to $9 per week. The downward trend of the curve, however, begins much earlier than in the boot and shoe industry. The wage class counting the greatest number of female operatives coincides with the maximum for males, indicating machinery of great efficiency as the important factor in this industry rather than skilled labor. With the curve covering the wages of males and females under 18 a very symmetrical figure is produced, — an approximately equal number of operatives being represented on each side of the mode, which occurs in the wage class $6 to $7 per week.

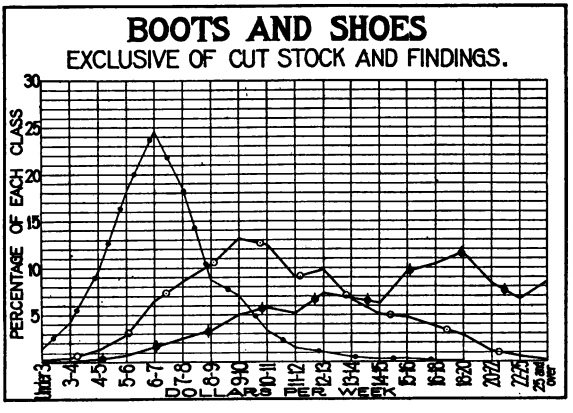
CHART 11.

WAGES

IN THE LEADING MANUFACTURING INDUSTRIES

PERCENTAGE OF WAGE-EARNERS IN SPECIFIED WAGE-GROUPS

Males over 18 —+— Females over 18 —o— Males & Females under 18 —•—.



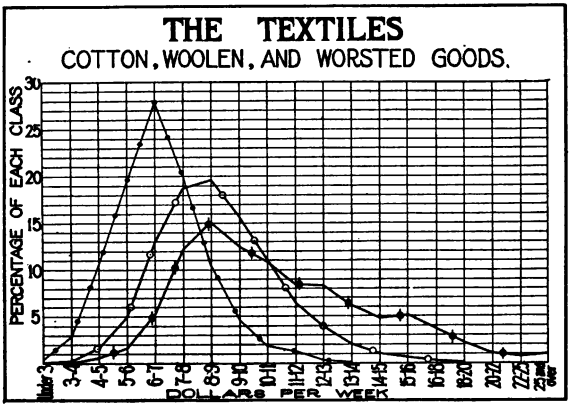


CHART 12.

That the corporate form of organization is not the basis on which all the industries of the Commonwealth are established, to the exclusion of ownership by individuals or firms, is emphasized by the figures presented by the Division of Manufactures, as a result of a study of the character of ownership of the various manufactories throughout the Commonwealth producing boots and shoes, cotton goods, woolens and worsteds, electrical machinery, foundry products, and leather, — tanned, curried, and finished. In toto, over one-sixth of these manufactories are under the control of individuals or private partnerships, but in this statement, attention should be drawn to the large percentage of these forms of ownership existing in the boot and shoe industry, a percentage which greatly increases the average taken for all the industries included. The United Shoe Machinery Company, which holds a monopoly of the boot and shoe machinery utilized in the country, leases all the machinery necessary to establish a factory, and herein is found the reason of the control of 27 per cent of the total production by establishments owned by individuals and private partnerships or firms.

CHART 12.

CHARACTER OF OWNERSHIP

IN THE LEADING INDUSTRIES OF MASSACHUSETTS

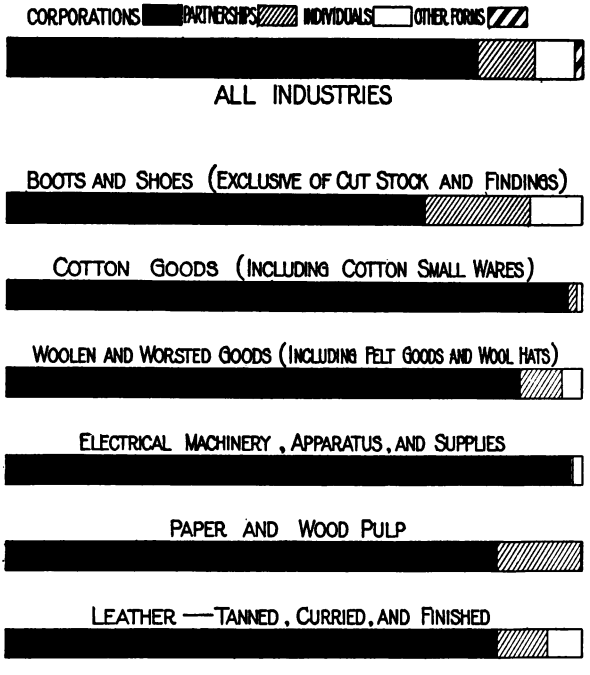

CORPORATIONS
PARTNERSHIPS
INDIVIDUALS
OTHER FORMS
ALL INDUSTRIES
BOOTS AND SHOES (EXCLUSIVE OF CUT STOCK AND FINDINGS)
COTTON GOODS (INCLUDING COTTON SMALL WARES)
WOOLEN AND WORSTED GOODS (INCLUDING FELT GOODS AND WOOL HATS)
ELECTRICAL MACHINERY, APPARATUS, AND SUPPLIES
PAPER AND WOOD PULP
LEATHER — TANNED, CURRIED, AND FINISHED

CHART 13.

During the four-year period 1907–1910 the Bureau endeavored to secure, annually, authoritative information as to the *changes* in rates of wages and in weekly hours of labor in the various industries of the State. Since 1910, the Bureau has published an annual report on the *prevailing* rates of wages and hours of labor and the reports on changes in rates of wages and hours of labor have been discontinued.

The upper diagram shows the net changes in the weekly rates of wages during the several years and illustrates the fact that prosperous industrial conditions determine largely the extent to which increases in wages are granted. It will be observed that in 1908 (a year of depression) there was a marked net decrease in the rates of wages of those employees whose wages were changed.

The lower diagram shows the methods by which reductions in the *hours of labor* were brought about. In 1909 and 1910 a considerable portion of reduction in hours of labor was in compliance with the statute prescribing 56 hours as the maximum number of hours during which women could be employed in manufacturing establishments. This statute did not become effective until January 1, 1910, but many of the employers anticipated the change during the latter part of the year 1909, and while the statute applied only to women, they nevertheless, for the sake of uniformity, established the same hourly arrangement for the male employees.

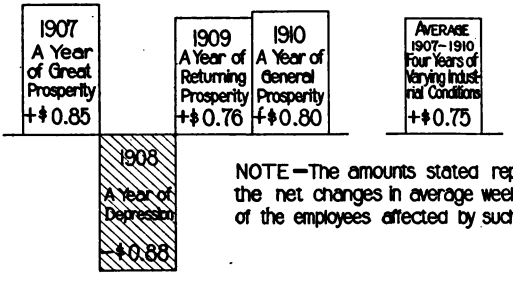
(*See also descriptive matter opposite Charts 14 and 15.*)

CHART 13.

RATES OF WAGES AND HOURS OF LABOR

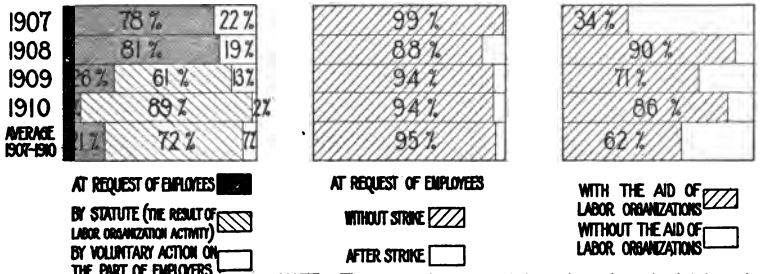
NET CHANGES 1907-1910

NET CHANGES IN RATES OF WAGES



NOTE—The amounts stated represent the net changes in average weekly wages of the employees affected by such changes

REDUCTION IN HOURS OF LABOR



NOTE - The percentages stated are based on the total number of employees affected by reductions in hours of labor.

CHART 14.

The purpose of the diagrams in this chart is to show, for the several years 1907 to 1910 and for the period as a whole, the extent to which the increases in rates of wages were secured by wage-earners in Massachusetts at the request of employees and whether with or without strike, and the extent to which increases were granted voluntarily by employers.

During the years 1908 and 1909 (a period of depression) comparatively few of the employers granted increases voluntarily and consequently the proportion of increases granted after strike was large. In 1907 and 1910, however, over one-half of the increases in each year were granted voluntarily and the proportion granted after strike in each year was correspondingly small.

Of the wage-earners who received increases at the request of the employees, a very large percentage (not less than 84 per cent in any of the four years) secured such increases with the aid of labor organizations.

The average amount of increases in weekly rates of wages received per employee is shown to be considerably higher where such increases were granted at the request of employees than where voluntarily granted by employers. Where granted at request of employees, the average increases granted without strike were larger than those granted after strike, and those granted with the aid of labor organizations were larger than those granted without their aid.

(*See also descriptive matter opposite Charts 13 and 15.*)

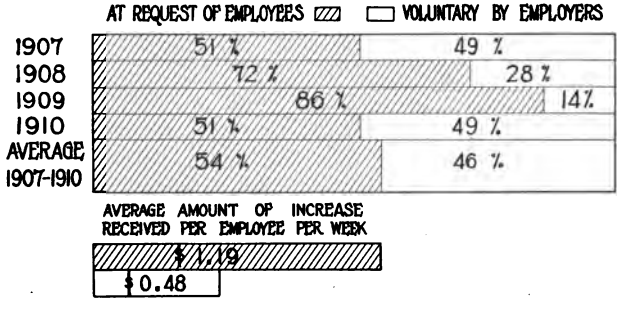
CHART 14.

LABOR STUDIES

METHODS BY WHICH WAGE-EARNERS IN MASSACHUSETTS SECURED INCREASES IN RATES OF WAGES 1907-1910

NOTE :— The percentages stated are based on the number of employees affected by the changes in rates of wages secured by the several methods under consideration

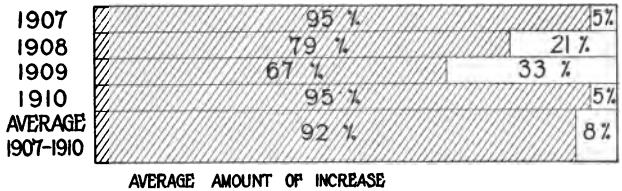
PER CENT OF WAGE-EARNERS WHO RECEIVED INCREASES



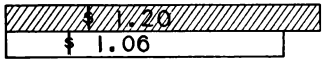
AVERAGE AMOUNT OF INCREASE RECEIVED PER EMPLOYEE PER WEEK

PER CENT OF WAGE-EARNERS WHO RECEIVED INCREASES AT REQUEST OF EMPLOYEES

WITHOUT STRIKE / AFTER STRIKE

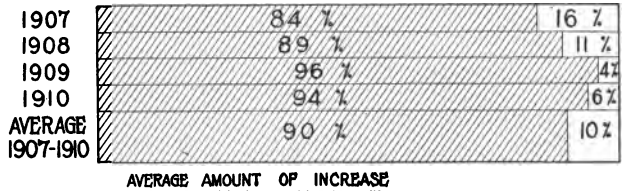


AVERAGE AMOUNT OF INCREASE RECEIVED PER EMPLOYEE PER WEEK



PER CENT OF WAGE-EARNERS WHO RECEIVED INCREASES AT REQUEST OF EMPLOYEES

WITH AID OF LABOR ORGANIZATIONS / WITHOUT AID OF LABOR ORGANIZATIONS



AVERAGE AMOUNT OF INCREASE RECEIVED PER EMPLOYEE PER WEEK

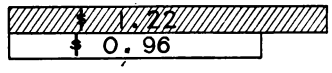


CHART 15.

For the most part increases in wages, when granted, are usually granted at the request of employees. This chart has reference only to increases in wages which were granted at the request of employees during the period 1907–1910. The diagrams show to what large extent labor organizations in the State have aided in securing wage increases, either with or without strike, and further that the average weekly increases secured with the aid of labor organizations are larger than the corresponding increases received without their aid.

(*See also descriptive matter opposite Charts 13 and 14.*)

CHART 15.

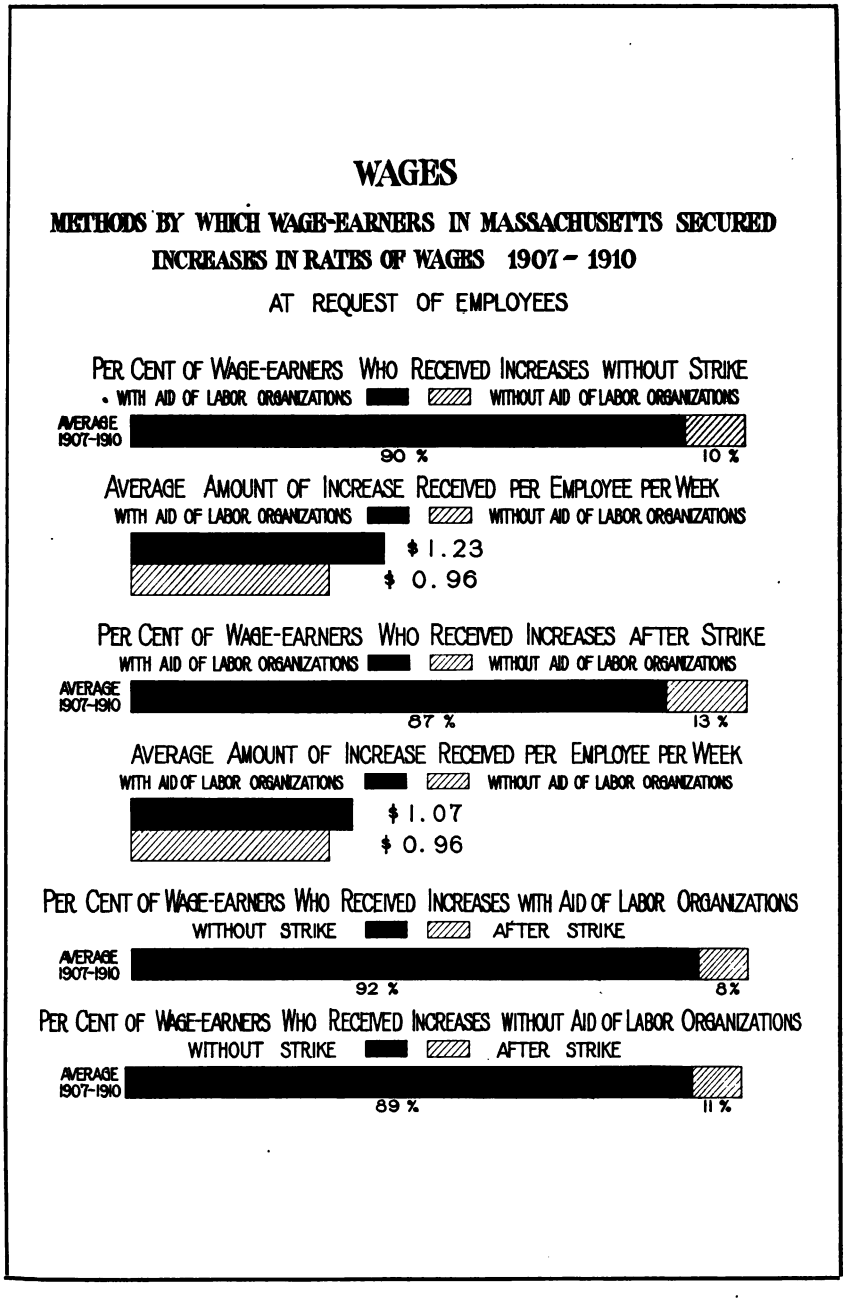

WAGES
METHODS BY WHICH WAGE-EARNERS IN MASSACHUSETTS SECURED INCREASES IN RATES OF WAGES 1907 - 1910
AT REQUEST OF EMPLOYEES
PER CENT OF WAGE-EARNERS WHO RECEIVED INCREASES WITHOUT STRIKE
WITH AID OF LABOR ORGANIZATIONS
WITHOUT AID OF LABOR ORGANIZATIONS
AVERAGE 1907-1910
90 %
10 %
AVERAGE AMOUNT OF INCREASE RECEIVED PER EMPLOYEE PER WEEK
WITH AID OF LABOR ORGANIZATIONS
WITHOUT AID OF LABOR ORGANIZATIONS
$ 1.23
$ 0.96
PER CENT OF WAGE-EARNERS WHO RECEIVED INCREASES AFTER STRIKE
WITH AID OF LABOR ORGANIZATIONS
WITHOUT AID OF LABOR ORGANIZATIONS
AVERAGE 1907-1910
87 %
13 %
AVERAGE AMOUNT OF INCREASE RECEIVED PER EMPLOYEE PER WEEK
WITH AID OF LABOR ORGANIZATIONS
WITHOUT AID OF LABOR ORGANIZATIONS
$ 1.07
$ 0.96
PER CENT OF WAGE-EARNERS WHO RECEIVED INCREASES WITH AID OF LABOR ORGANIZATIONS
WITHOUT STRIKE
AFTER STRIKE
AVERAGE 1907-1910
92 %
8%
PER CENT OF WAGE-EARNERS WHO RECEIVED INCREASES WITHOUT AID OF LABOR ORGANIZATIONS
WITHOUT STRIKE
AFTER STRIKE
AVERAGE 1907-1910
89 %
11 %

CHART 16.

Following demonstrations by the unemployed in Boston in January, 1908, this Bureau published a descriptive report on the unemployment situation in Massachusetts at that time, but no comprehensive statistics were then available which would show the proportion of wage-earners actually unemployed. In order that the Bureau in the future might have some statistical basis for determining the proportion of wage-earners out of work, it inaugurated the plan, since followed, of obtaining quarterly statistics of unemployment from labor organizations.

The percentages used in plotting the curves on the chart opposite are based on returns obtained from trade union members in New York state, Massachusetts, the United Kingdom, and Germany. While the returns from the several countries are not directly comparable, owing to the varying methods adopted in securing them, the fluctuations of the curves may be compared because the methods of securing the information in each country are identical throughout the entire period.

An examination of the chart shows a marked correspondence in the fluctuation of the curves for New York state and Massachusetts with some degree of correspondence between these curves and similar curves for Germany and the United Kingdom.

With reference to the Massachusetts curve it will be observed that it represents a gradual improvement in the conditions of employment following the industrial depression of 1907, while the upward fluctuations at the close of each year represent the usual increase of unemployment occurring during the winter months. The very high point reached at the close of March, 1912, was due principally to the unemployment of a large number of textile workers who were on strike in Lawrence, Lowell, and other textile centres.

CHART. — Percentage of Trade Union Members Unemployed in Massachusetts, New York, United Kingdom, and Germany, 1909-1913.

NOTE. — The *fluctuations* only in the curves may be compared. Owing to the fact that the sources of information vary so greatly in the several countries considered in this chart, any attempt to compare the *level* of unemployment fails utterly.

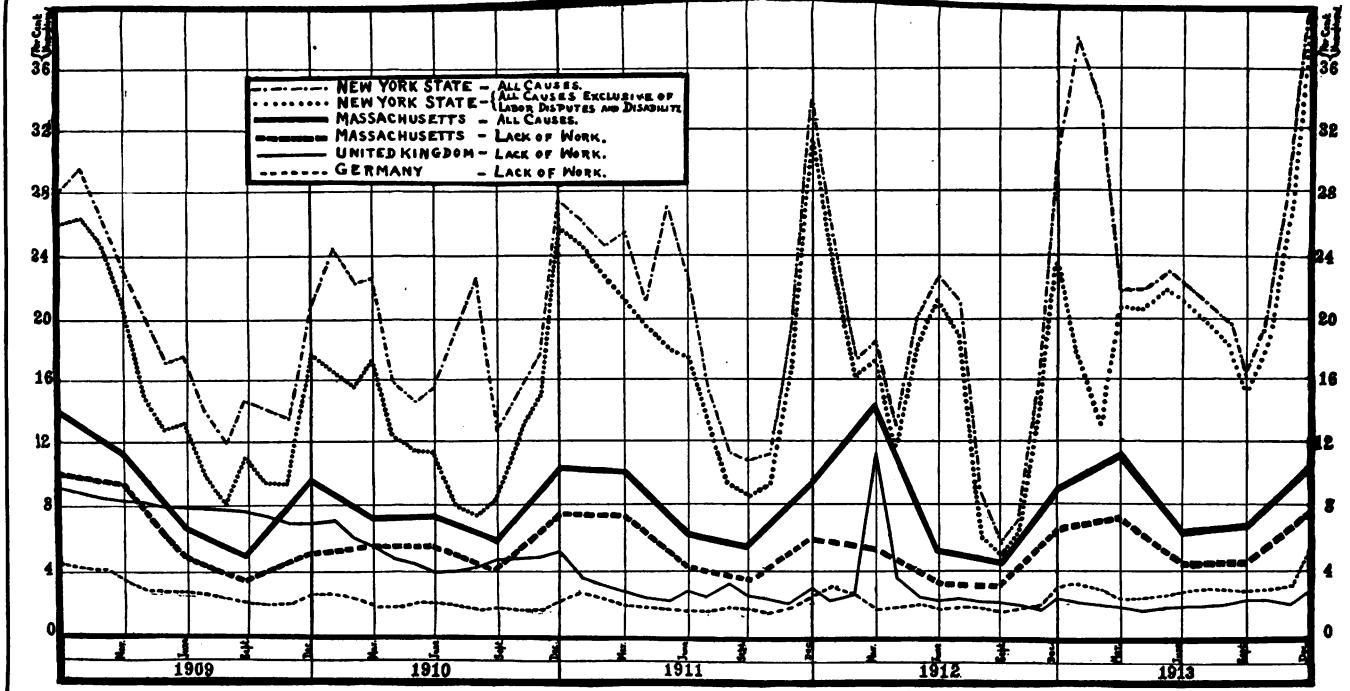


CHART 16.

CHART 17.

Statistics of labor disagreements in Massachusetts have been compiled for a period covering 32 years (1881–1912). Prior to 1900 material for these statistics were gathered by the United States Bureau of Labor; since then to 1912 similar data were compiled by the Massachusetts Bureau.

The five-year period, 1908–1912, has been selected as the subject for the chart studies showing the significant facts concerning strikes and lockouts occurring during that period. In the preparation of statistics of strikes and lockouts both parties concerned in each controversy were asked to co-operate with the Bureau by contributing as complete and comprehensive information as possible on the subject. As the number of lockouts in any year is small and as they essentially differ so slightly from strikes, the term "strike" in this presentation has been made to refer to both strikes and lockouts, and the term "strikers" to both strikers and locked-out employees. Owing to the dependency of one occupation upon another the cessation of work by strikers in many cases renders it impossible for the employees in the same establishment, who have perhaps no grievance or desire to strike, to continue work. Statistics for this class of employees have been prepared under the caption "Non-Strikers Involved."

The year 1908 shows a marked decrease in the number and magnitude of strikes in Massachusetts as compared with the other years under review. This effect is undoubtedly due to the general depression in business following the panic of October, 1907. Statistics of strikes usually show a parallelism between the number of labor disputes and the state of prosperity or depression in general business conditions.

A great part of the industrial unrest in Massachusetts in 1912, in so far as it may be illustrated by strikes, may be attributed to a reduction in earnings in the textile industry, growing out of the State law which became effective on January 1, 1912. This act reduced the hours of employment for women and for children under 18 years of age from 56 to 54 hours a week.

(*See also descriptive matter opposite Chart 18.*)

CHART 17.

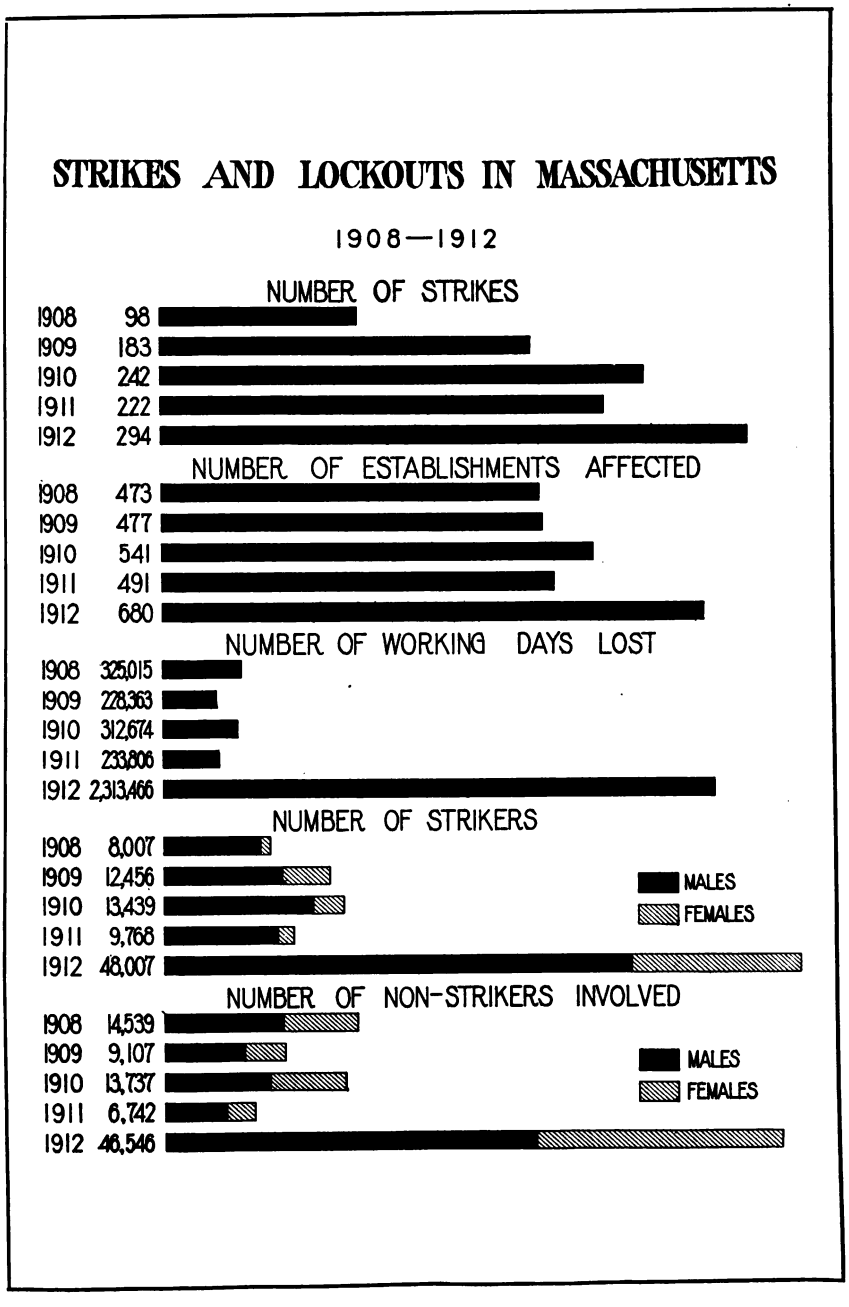

STRIKES AND LOCKOUTS IN MASSACHUSETTS
1908—1912
NUMBER OF STRIKES
1908 98
1909 183
1910 242
1911 222
1912 294
NUMBER OF ESTABLISHMENTS AFFECTED
1908 473
1909 477
1910 541
1911 491
1912 680
NUMBER OF WORKING DAYS LOST
1908 325,015
1909 228,363
1910 312,674
1911 233,806
1912 2,313,466
NUMBER OF STRIKERS
1908 8,007
1909 12,456
1910 13,439
1911 9,768
1912 48,007
MALES
FEMALES
NUMBER OF NON-STRIKERS INVOLVED
1908 14,539
1909 9,107
1910 13,737
1911 6,742
1912 46,546
MALES
FEMALES

CHART 18.

Many strikes may be termed general strikes as they cover more than one establishment; consequently the unit of measurement used in these presentations is the establishment.

Strikes designated as "ordered" include all strikes ordered by direct vote of members of a labor organization and also those ordered by a business agent or committee acting under powers conferred by such organization. Strikes tabulated as "not ordered" are not necessarily strikes begun and carried on by non-union employees; they include not only this class of strike but also strikes carried on by members of trade unions acting without the authority of their organization. It is obvious that lockouts cannot be tabulated under either of these classifications.

Strikes are often due to more than one cause. Such strikes have been counted under each of those causes contributing to the dispute. The results of all disputes in these studies are presented from the standpoint of the employee.

(*See also descriptive matter opposite Chart 17.*)

CHART 18.

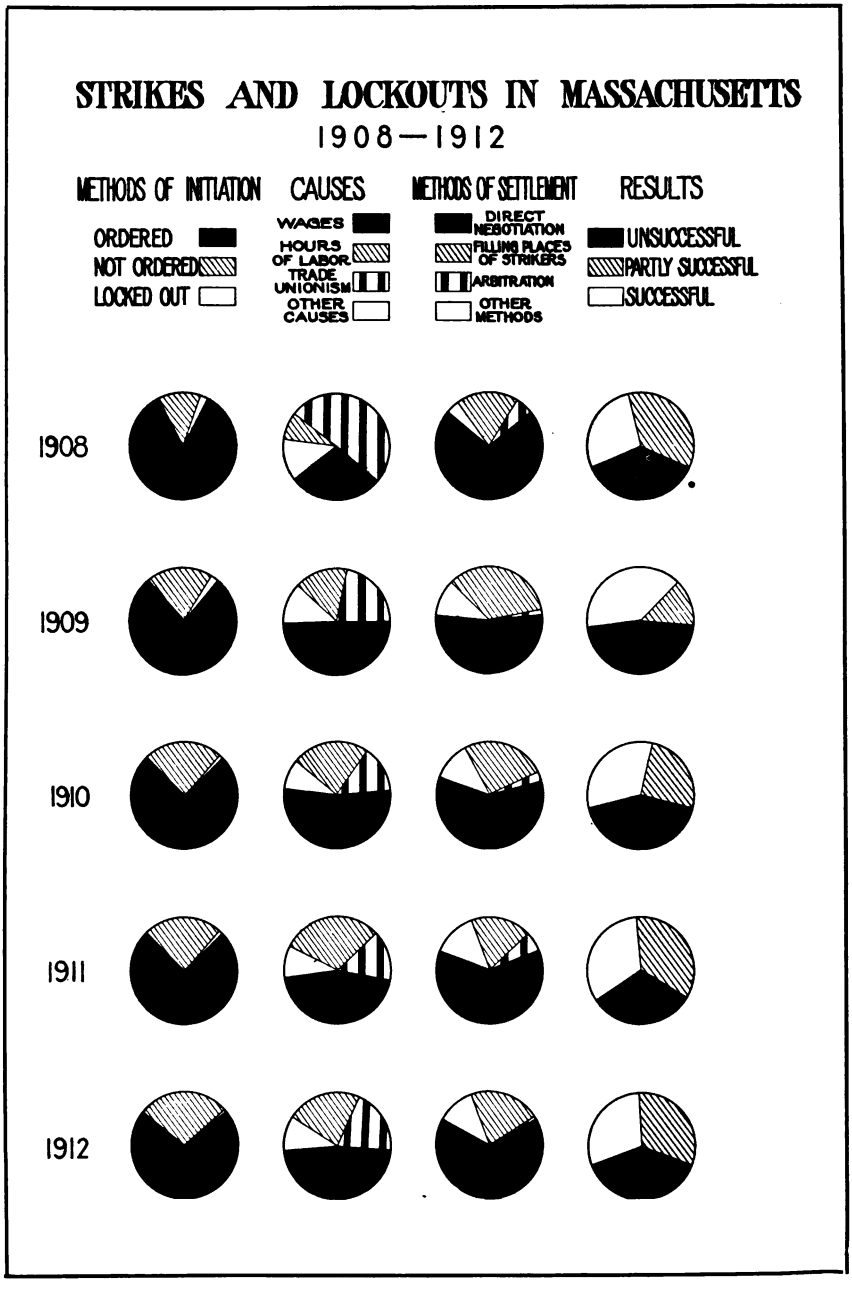

STRIKES AND LOCKOUTS IN MASSACHUSETTS
1908—1912
METHODS OF INITIATION
ORDERED
NOT ORDERED
LOCKED OUT
CAUSES
WAGES
HOURS OF LABOR
TRADE UNIONISM
OTHER CAUSES
METHODS OF SETTLEMENT
DIRECT NEGOTIATION
FILLING PLACES OF STRIKERS
ARBITRATION
OTHER METHODS
RESULTS
UNSUCCESSFUL
PARTLY SUCCESSFUL
SUCCESSFUL
1908
1909
1910
1911
1912

CHART 19.

In 1908 the Bureau first began to collect statistics of a somewhat comprehensive character from labor organizations, and in addition to statistics relative to number and membership of such organizations, various other data relative to their activities have been secured from time to time.

By reference to the chart opposite, it will be observed that during the years 1911, 1912, and 1913 there was a marked increase in the aggregate number of local labor organizations. In the building trades there was a slow but steady increase during the period 1908 to 1912, and a decided increase in 1913, but in the other five industries represented no uniform increase is to be noted. In one instance (iron and steel manufacturing) a gradual decrease in the number of organizations occurred during the period 1908–1912, with a return in 1913 to about the level of 1908.

(*See also descriptive matter opposite Chart 20 with reference to membership of local labor organizations.*)

CHART 19.

LABOR

NUMBER OF LOCAL LABOR ORGANIZATIONS IN MASSACHUSETTS

BY PRINCIPAL ORGANIZED INDUSTRIES 1908-1913

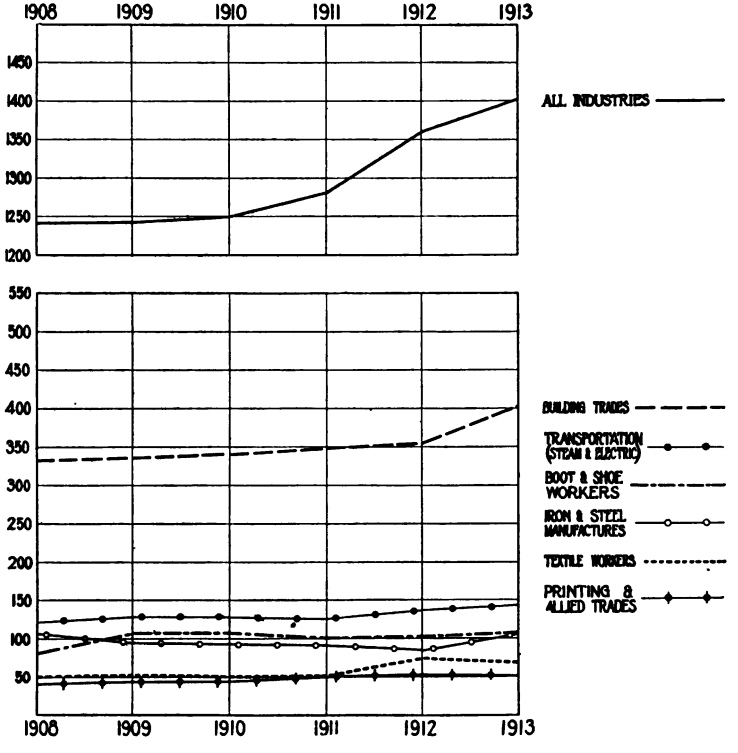


CHART 20.

As early as 1902 the Bureau published a trade union directory for Massachusetts, and it was therefore possible to furnish a statement as to the number of local labor organizations in the Commonwealth, but not until 1908 did the Bureau secure any information with reference to the membership of such organizations. Even in 1908 and 1909 somewhat over one-tenth of the organizations then in existence failed to report. But since that date an annual statement of membership has been secured from each labor organization in the State.

By reference to the chart opposite, it will be observed that there was a gradual increase in 1909, 1910, and 1911 in the aggregate membership of all labor organizations; in 1912 the increase was much more marked, while in 1913 the increase was less marked. A corresponding statement holds true for the aggregate number of males. The increase in the aggregate number of female members during the period is represented by the space between the curve for all industries and that for males, and it will be observed that the increase in the number of female members was particularly marked in 1912 and 1913.

With reference to the several trades, the most noteworthy increases in membership were in transportation (steam and electric) and building trades. The only industry of those represented which showed any marked decrease in any year was that of textile workers (during the year 1913).

(*See also descriptive matter opposite Chart 19 with reference to number of local labor organizations.*)

CHART 20.

LABOR

MEMBERSHIP OF LOCAL LABOR ORGANIZATIONS IN MASSACHUSETTS

BY PRINCIPAL ORGANIZED INDUSTRIES · 1908-1913

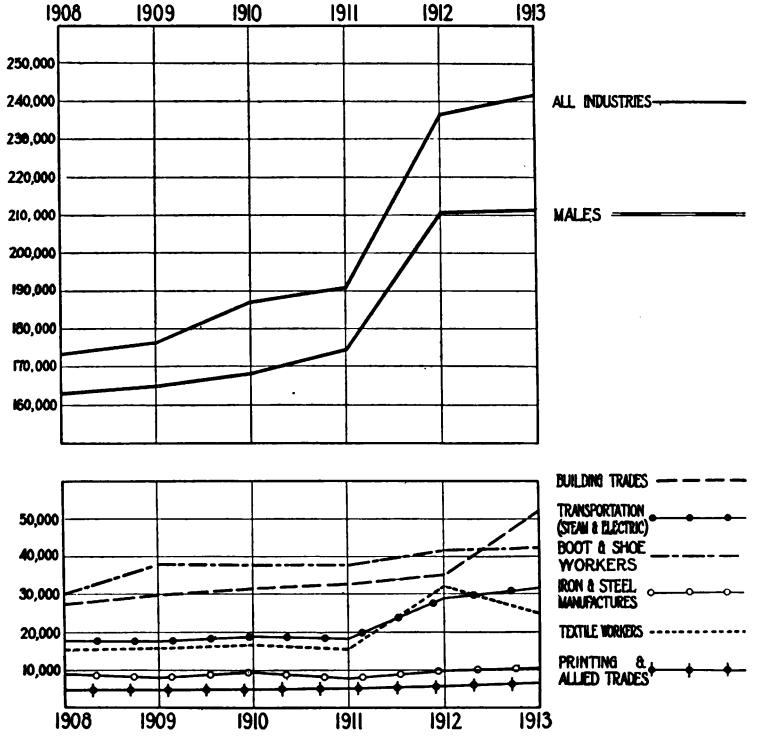


CHART 21.

This chart shows the date of establishment of each of the four State Free Employment Offices, the composition of the office staff for each office, and the total number of employees in the four offices on November 30, 1914, and the manner in which the administration of the offices is carried on.

The Director of the Bureau of Statistics has general supervision over all the offices and the employees are appointed under general Civil Service regulations. Newspaper advertising, monthly market letters, special bulletin notices, and the annual reports keep the public informed of the work being done by the offices.

CHART 21.

ORGANIZATION AND ADMINISTRATION OF THE STATE FREE EMPLOYMENT OFFICES

DATES OF ESTABLISHMENT

BOSTON OFFICE	DECEMBER 3 1906
SPRINGFIELD OFFICE	SEPTEMBER 4 1907
FALL RIVER OFFICE	OCTOBER 1 1907
WORCESTER OFFICE	SEPTEMBER 15 1913

OFFICE STAFFS

BOSTON OFFICE	1 Superintendent 1 Assistant Supt. 1 Stenographer 12 Clerks 1 Messenger 1 Laborer 2 Cleaners
SPRINGFIELD OFFICE	1 Superintendent 4 Clerks 1 Laborer
FALL RIVER OFFICE	1 Superintendent 1 Laborer
WORCESTER OFFICE	1 Superintendent 3 Clerks 1 Cleaner

TOTAL NUMBER OF REGULAR EMPLOYES : 32

ADMINISTRATION

General Supervision by the Director of the Bureau of Statistics.
Appointment of Employes under General Civil Service Regulations.
Publicity by newspaper advertising, monthly market letters, annual reports, Special Bulletin notices, etc.
Coöperation with the Associated Charities, United States Immigration Office, and other similar agencies.

CHART 22.

This chart shows the volume of business of the four State Free Employment Offices from the date of establishment to the close of 1914.

From these data it appears that in the year 1908 there was a notable decrease in the number reported under the several classifications, due, no doubt, partly to the fact that 1907 was the first year of the existence of three of the offices (Boston, Fall River, and Springfield) and a large number of people were attracted to them.

Beginning with 1909 there was a marked increase in all the lines until the year 1914, when a decrease is again noted.

CHART 22.

STATE FREE EMPLOYMENT OFFICES

VOLUME OF BUSINESS 1907-1914

	NUMBER OF OFFICES	OFFERS OF POSITIONS	POSITIONS REPORTED FILLED	INDIVIDUALS FURNISHED EMPLOYMENT	PERSONS APPLIED FOR BY EMPLOYERS	NUMBER OF EMPLOYERS OF RECORD
1907	3	46,853	15,510	10,707	35,563	—
1908	3	32,654	14,955	9,093	18,980	6,248
1909	3	41,540	17,741	11,166	23,817	7,554
1910	3	51,082	20,574	12,292	28,354	8,854
1911	3	58,172	21,158	13,205	30,632	8,668
1912	3	74,089	26,587	15,711	36,834	9,457
1913	4	74,113	29,117	16,835	39,230	10,516
1914	4	53,858	24,710	13,644	31,565	10,210
AGGREGATE	—	432,361	170,352	102,653	244,975	—

CHART 23.

This chart shows the volume of business done by the Free Employment Office in Boston from the first year of its existence (1907) to the close of 1914.

The curve indicating "Offers of positions" shows a falling off in 1908 but an increase from that time until the close of the year 1912, when a decrease is again noted which continues to the close of 1914.

The curve indicating "Persons applied for by employers" also shows a decrease in 1908, then a gradual increase until 1913 is shown, when the general business depression (prevalent throughout the country) causes a downward trend in the curve continuing to the close of 1914.

The curve indicating "Positions reported filled" shows an increase from 1908 to 1910 with a slight increase in 1911, from which point it steadily rises until the year 1913, when the same general decrease is noted for the year 1914 as in the two previous curves.

The curve indicating "Individuals furnished employment" shows a steady increase from 1908 to the close of 1913 and a decrease for the year 1914 in approximately the same ratio as that shown by the curve for "Positions reported filled."

CHART 23.

VOLUME OF BUSINESS DONE BY THE FREE EMPLOYMENT OFFICE, BOSTON, MASSACHUSETTS

1907 — 1914

YEARS ENDING NOVEMBER 30

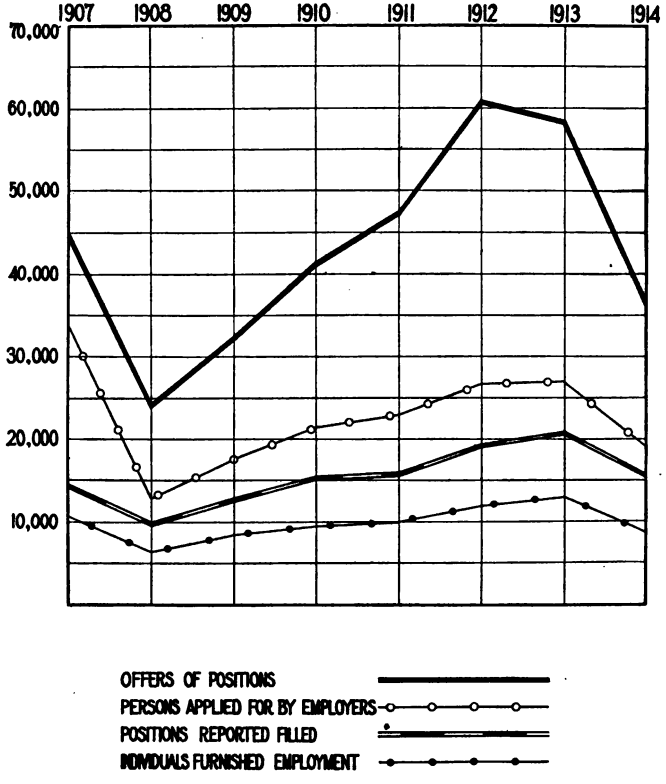


CHART 24.

The analysis of municipal expenditures presented in this chart is based upon the total amount of annual current charges against revenue incurred by the cities and towns of the Commonwealth. This amount does not include expenditures made for extensive improvements, additions, or new construction, but merely those incurred as strict maintenance charges, or what might be termed, in other words, operating and recurring charges.

The curves representing Education and Libraries, Health and Sanitation, and Recreation (including Parks and Playgrounds) by their distinct ascent reflect clearly the trend of public demands in these fields of municipal activity, and it is safe to assert that none of these curves has yet reached the maximum ratio which the expenditure it represents will bear to the total. On the other hand, the curve designating the expenditures on account of interest payments shows a gratifying decrease since 1909 and with the statutory abolition of sinking funds this curve will, in all probability, show a still further decrease. The absolute regularity of the decrease in Soldiers' Benefits is due to the gradual decline in the numbers of those whose patriotism the Commonwealth has so concretely appreciated. The Protection function, including police, fire, forestry, and other protection, — with only one small deviation in 1908, remains practically stationary at 14 per cent of the total. The trend of the curve representing Debt will undoubtedly continue to be downward; and that showing the cost of Highway maintenance will probably fluctuate more or less during the next few years.

CHART 24.

MUNICIPAL EXPENDITURES

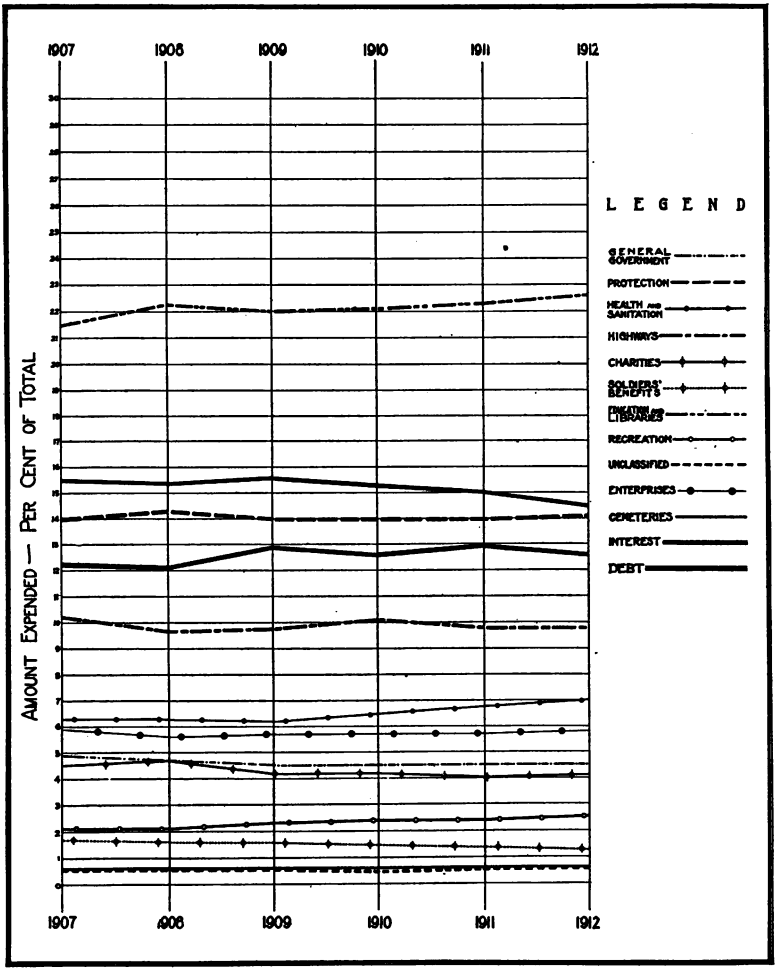


CHART 25.

An actual increase in a community's net debt does not of necessity connote an unfavorable condition of its finances. If the proceeds of the loans constituting the debt are utilized sagaciously, and represent properties, additions, or improvements of more than temporary value, such debt is *prima facie* evidence of constructive management of the community's affairs. The relation between net debt and assessed valuation, however, is of great importance, and a very favorable condition is presented when the ratio of net funded or fixed debt to the assessed valuation shows a steady decrease, similar to that apparent in the figures returned by the cities and towns of over 5,000 inhabitants of the Commonwealth for the years 1908 to 1912, inclusive. According to statute, the cities of Massachusetts are permitted to borrow for certain specified purposes, within the debt limit, 2½ per cent of the average assessed valuation of the three years directly preceding, minus the abatements allowed. For towns, debts to the amount of 3 per cent of the assessed valuation are authorized. Only loans for water supply, gas and electric plants, and playgrounds up to one-half of one per cent of the last preceding assessed valuation can be issued outside the debt limit, except by special legislation.

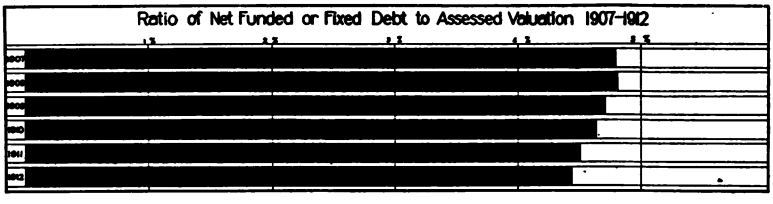
Although the actual net debt of the cities and towns of the Commonwealth is increasing annually, the yearly increase in assessed valuation is so much greater that, relatively to the valuation, the debt shows a steady decrease, indicating thus the strong financial position of the cities and towns of the State.

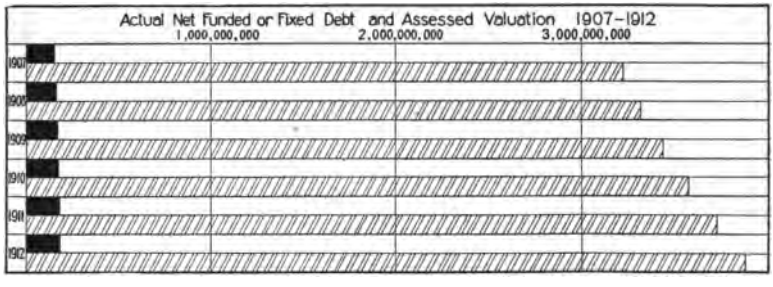
CHART 25.

DEBT STUDIES

DEBT ▬ ▨ ASSESSED VALUATION

DEBT STUDIES BASED ON THE RETURNS OF THE CITIES AND TOWNS OF OVER 5000 INHABITANTS





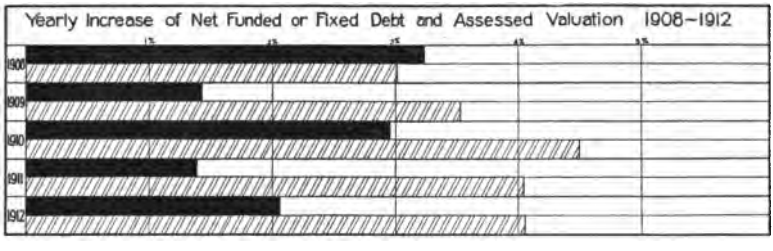


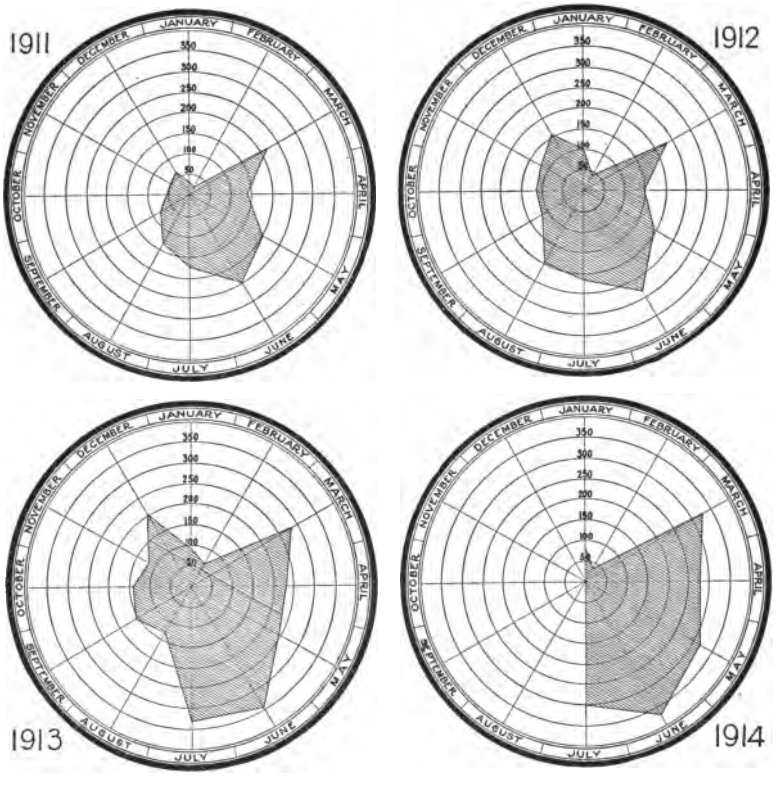
CHART 26.

The act passed by the Massachusetts Legislature which took effect January 1, 1911, covering the certification of notes, provided that all notes issued by towns should bear the signature of the Director of the Bureau of Statistics, as certification of their authority. This signature confirms, in the best judgment of the Director, first, the legality of the vote, in accordance with which the note is issued; second, the ability of the town to issue the note without exceeding its borrowing capacity, as determined by statute; and third, the authenticity of the signatures of the town officials appearing on the face of the note. It will be readily seen that the number of notes certified annually since the inception of the act has been growing rapidly, a fact which would seem to justify the belief that certified town notes have found increasing favor in the eyes of the investing public. The February and March annual town meetings authorizing the town treasurers to borrow money for the current year are responsible for the great increase in March in the number of notes certified. Toward the latter part of the year, when taxes have begun to come into the treasury, the moneys thus received are used not only to meet the current charges of that period of the year, but also to pay off the notes issued earlier in the year in anticipation of this revenue. The use of these moneys, therefore, obviates to a great degree the necessity of borrowing between November and the following March, and to this extent causes the decrease, noted by the chart, in the number of certifications occurring in the winter months. In 1913 an act of the Legislature placed the issue of notes by fire, water, watch, light, and improvement districts under the supervision of the Director of the Bureau, and such notes are included in the figures herewith graphically presented.

CHART 26.

CERTIFICATION OF TOWN NOTES

By Months 1911–1914



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